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ABSTRACT

This document contains the proceedings of the 16th annual National Conference on School Finance. The Conference participants included representatives of State education agencies, professional associations, and State legislatures, as well as professors of school finance. Topics discussed include fiscal neutrality, cost differentials and cost indices, the supply and demand of educational personnel, measuring productivity in education, full State funding of capital outlay, public funds and nonpublic schools, equal educational opportunity, educational legislation, and court decisions. Presentations also consider alternative fiscal solutions to equity problems in public school finance, the prospects for alternative tax sources for education, and school finance reform in the States. (Author/DN)

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Foreword

The 16th annual National Conference on School Finance provided another outstanding forum for the discussion of school finance issues. The Conference participants included representatives of state education agencies, professional associations, and state legislatures, as well as professors of school finance. Sponsorship for the 16th National Conference was provided by the National Educational Finance Project and the Institute for Educational Finance at the University of Florida. The National Education Association's decision to drop sponsorship for the Conferences has resulted in the necessity to seek other avenues for continuation of the Conference. The 1974 Conference will again be sponsored by the Institute of Educational Finance, but continued sponsorship after 1974 remains uncertain.

In the aftermath of the U.S. Supreme Court's ruling in *Rodriguez* there was a very high level of interest in various portions of the Conference. Attendance was very high in the various group discussions related to state school finance proposals under consideration by various states.

The continuing goal of the Conference has been to provide a forum for the expression of different points of view and thereby contribute to a better understanding of the multiple problems involved in developing state school finance programs. The views expressed by the presenters were their own and do not necessarily reflect views or policies of the Conference Sponsors.

Once again, the winners of the awards presented abstracts of their doctoral dissertations in school finance. The sponsors wish to express appreciation to those members of the Conference Planning Committee who served as a committee of judges for the awards.

Special recognition should be given to the program presenters, reactors, and Conference participants. This group of dedicated educators provides the continuing life thread of the Conference. The Conference Co-Chairmen wish to express their appreciation to the members of the Conference Planning Committee for their assistance and to the staff of the Institute who contributed to the Conference and proceedings: Nelda Cambron, Carol Hanes, Thomas Melcher, Hans Mercer, Julian Mixon, James Stultz, Stephen Thomas, Sandra Watson, and Jerry Wiblemo.

April, 1973

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Co-Chairmen

Getting Back to Basics

S. P. MARLAND, JR.

Assistant Secretary for Education, Department of Health, Education, and Welfare.

In an interview published a couple of weeks ago, Walter Lippmann, now 83 years old and looking back over many decades of intimate observation of U.S. political experience, said he has come to the conclusion that he doesn't believe in trying to achieve human perfection through government action.

"I believe," he said, "in what we used to call meliorism. You can make things better, but you can't make them perfect."

In this sense, I think most of us in this room would happily consent to call ourselves meliorists, too. For "making things better," as Lippmann puts it, seems to aptly express the necessarily limited social objectives we have set for the 70's, echoing a new mood of restraint that surrounds great issues such as school finance reform and the proper Federal role in the education enterprise. We are no longer making headlong excursions and excessive promises, but in the light of 10 years' experience with Federal initiatives, making reform the theme of our work.

The Administration's advocacy of education revenue sharing affirms this total departure from the absolutism that prevailed in recent years, particularly in Washington. The President is saying that in order for this Nation to go forward, it must first restore certain fundamental principles of our governmental system, restore an attitude of respect and tolerance for all partners in this Federal educational enterprise, and—perhaps most important—restore a humanly modest appraisal of just what it is we are capable of doing with Federal dollars, assuming, as I hope, a continuing and increasing Federal role constructed in a spirit of self-appraisal by Congress and the Executive Branch.

I think that appraisal should go something like this:

We can ameliorate the problems of America, but we cannot obliterate them, and it is explosively harmful, as we have learned, to mislead the public into thinking that we can. Thus, all the theories we devise and all the programs we design amount only to hopeful attempts, nothing more, to unravel the knotted strands of America's educational problems, and then to knit them back together into what we believe will be a more orderly, useful, and just pattern.

But we will not know, and cannot know, whether what we do is wholly right, or even fractionally right, until the solutions succeed, or fail. We recognize, in short, as Alfred North Whitehead observed, that all truths are in reality half-truths, and it is trying to treat them as whole truths that plays the devil.

I hope you realize what a tremendous act of self-denial it is for a Washington type to concede that the complete truth may be more available to God and the States than to our everlasting bureaucracy, particularly when, not long ago, reform of education, among other things, seemed to be rapidly turning into a Washington monopoly.

Now, many billion dollars later, some people question whether the Federal Government should intrude at all in educational matters, other than continuing to mail out checks. These theorists are busy formulating a newer but equally invalid species of the truth. They see revenue sharing and the general thrust for governmental decentralization reducing the Federal education establishment to the somnolence of 15 years ago, a time that is, when few people knew what the government was doing about education or took the trouble to find out.

I dispute this overreactive, oversimplified version of the Federal future. It could well be, for example, that the Supreme Court's decision of March 21 will have the effect of stimulating a great deal of Federal involvement in the drive to correct the economic disparities of our school support system. Certainly the decision does not rule out such an expanded Federal role consistent with the President's commitment to school finance reform in his 1972 State of the Union message. He spoke in the document of "providing both fair and adequate financing for our children's education—consistent with the principle of preserving the control by local school boards over local schools."

There are several ways the Federal Government could help do this. In the grants consolidation proposal before Congress, for example, there are five areas in which the States and localities would be directed to spend the shared revenues—the disadvantaged, the handicapped, vocational education, impact aid, and supporting services.

A fifth area of aid—the priority to achieve equality of educational opportunity—could easily be added if needed, enabling the Government to pick up part of the cost of education in any State that agreed to equalize its own school resources. Let me stress that I am not declaring a new Federal policy on this subject. But I find the idea reasonable and attractive, and worth your close examination.

My own feelings regarding the Rodriguez decision are mixed. I do see it as a strong reaffirmation of the principle of shared powers and the ultimate authority of the State in education. It underscores the spirit of cooperative trust which is the real foundation of government in this country and without which no education laws, or any others for that matter, can have any useful effect. And, finally, the decision shuns the assumption that all issues must ultimately be resolved by the Federal Government.

But I'll be honest: I was expecting and perhaps even anticipating a vote that would have thrown out the property tax as the economic foundation of the schools, as Mr. Rodriguez had petitioned. Perhaps in my anxiety to correct financial inequity, I was willing to countenance what would amount to governmental inequity, assuming unconsciously, as do opponents of revenue sharing, that the States simply aren't up to the job, or that they need inescapable legal coercion to move purposefully toward ensuring true equality of educational opportunity.

But if some States are indeed giving inequitable support to education—and some undoubtedly are—the Court's view is that they should be shored up, not that the system should to all practical ends be abandoned. The Court recognized that its decision may well delay the advance of necessary fiscal reform in education, but was willing to take that chance because it believes that the proper instrument for action is the State legislature, and the proper reason to act is the reasoned conviction of responsible State officials, and certainly not a court order. Much as I want to see fiscal reform in education, I do not want it at the price of further abdication of educational leadership to the bench at *any* level.

Whatever the arguments that can be made about the question of who should do what, the Court has spoken and the responsibility for fiscal reform now lies with the governors and legislatures of the States, as well as with the State courts, should it be necessary to resolve this through the judicial process, which I hope can be avoided. The great question now is, how well will the States respond? For with the ball in their court, it becomes clearly their responsibility—one many of them have not discharged with distinction in the past—to lift up the poorer school districts with increased funding. Some may take the Court's decision as a reason to slough off and even to abandon the entirely hopeful beginnings of reform that are now under way. I hope they will not and, indeed, I am confident they will not. For surrounding this issue, I believe we can see at the State level a new and necessary commitment to equality of opportunity.

Governors and legislators in a number of States are responding affirmatively to Justice Powell's caution in the majority opinion that the Court "'is not to be viewed as placing its judicial imprimatur on the status quo," and his warning, further, that "the need is apparent for reform in tax systems which may well have relied too long and too heavily on the local property tax." The Court does not believe that school finance calls for intervention from the Federal bench, but all nine justices were agreed that the Texas school finance system, and by implication all the rest save Hawaii, are terribly wrong and unjustly erratic in the quality of education that results from district to district.

In Maryland, for example, the decision found the legislature in the middle of putting together an effort to help equalize school financing between rich and poor counties. An editorial in a Baltimore paper observed that rich-county spokesmen immediately seized upon the decision as a "victory" in that the Supreme Court was apparently saying that the equalizing task was no longer necessary.

But Governor Mandel, fortunately, hasn't seen it that way, and he is going ahead with all determination, intending that his State will face up to the public educational responsibilities spelled out in its own constitution.

Likewise, the Oregon legislature approved on the day following the Court's decision a plan under which the State would assume virtually all public school operating costs. The plan will be offered to the people in a special election May 1.

I am confident that reform efforts will continue to be backed by governors, legislative leaders, and chief State school officers, not necessarily because there are more than 50 lawsuits pending in 32 States—though I admit legal pressure helps—but because these men and women are responsible, humane individuals who understand and reject the educational deprivation and the long-standing deficits in equity that are the inevitable result of the severe economic disparities among and within the States. Illustrative is the new policy position adopted by the National Governor's Conference last June which stated:

> "The State role in financing elementary and secondary education is the most vital issue currently facing the States. . . . State action to achieve equal educational opportunity must begin immediately, progress rapidly, and have the aggressive leadership of elected officials in State Government."
>
> ". . . Review of the issues and approaches underscores one critical point—the wide variety of alternatives prevents a 'best solution.' Nevertheless, States must focus on one prime objective—elimination of local wealth as the major determinant in educational opportunity."

The HEW School Finance Task Force, under the direction of Reed Saunders, has gathered further evidence of the active pursuit of economic justice at the State level:

The Wisconsin legislature, for example, is considering legislation sponsored by Governor Lucy which would provide property tax relief, increase the State's share of the cost of public education, and insure that all districts have an equal capacity to provide high quality education programs.

In Maine, Governor McCarter has sponsored legislation which would provide for full State funding at levels of $630 per elementary school pupil and $945 per secondary school pupil. In addition, exceptional operating costs for special education, vocational education, and those due to geographic isolation would under this proposal be provided by the State.

In California, Governor Reagan last December won a five-year battle to reform the State's educational financing system when the legislature enacted a $1 billion-plus tax-shift plan increasing the State's share of the cost of public schools from 35 percent to 50 percent over a period of years, including an easing of the really heavy burden borne by property owners in that State. Serrano, I am sure, helped here.

Governor Milliken of Michigan has, of course, been a long-time proponent of reform and was, I believe, the first governor to advocate near total State funding of schools. At this moment he is sponsoring legislation which stipulates an "equal yield" formula of State aid distribution to assure, among other things, that equal property tax effort will bring in the same number of dollars per pupil in virtually every school district in the State.

Governor Wendell Anderson of Minnesota was able, just about the time of the Serrano decision, to persuade his legislature to raise liquor, cigarette, sales, and income taxes, and to use the extra revenues produced to, first, lower real estate taxes and, second, come up with $600 million in new funds to increase State education support from the 43 percent of 1971 to 70 percent today. Anderson is now asking the legislature for still more funds for educational purposes over the next two years in order to raise per-pupil expenditures in all the poorer districts to a statewide average within six years.

While the legislatures of these and many other States have been moving to ease fiscal inequities among their districts and studying other alternatives to the financing problem, you may be wondering what's been happening back at the HEW ranch.

A very general answer would be that we are planning how our organization can most effectively adjust to the conditions of large-scale grant consolidation which this Administration has proposed and, at the same time, do the best we can to help the States resolve such problems as finance. The Better Schools Act of 1973, as you know, would consolidate some 30 existing State formula grant programs into a vastly simplified aid package, sharing the Federal revenues while shifting administrative responsibility to the States and localities. As you can appreciate, this means a major overhaul at the Federal level, particularly in the Office of Education which operates most of the various categorical programs which we now propose to consolidate into five broad national-purpose areas.

Simply stated, we must now assume a new role that will best fit our capacities and human resources as well as match the needs of the clients we serve. My conviction is that this role will be largely met through expanded technical assistance by the entire Education Division of HEW. In this as yet unrefined conception, we would serve as a national resource, a cooperative centralized bank of information, counsel, discretionary funds, and research, linking the problems and experiences of the States and communities into a national network of educational knowledge.

There has been ample opportunity in the past to fashion rationally a Federal role of this kind, but the onset of massive Federal assistance to elementary and secondary education in the 1960's commanded that OE exercise stewardship over these funds and develop grants management procedures as distinct from educational leadership procedures. Consumed by these responsibilities, the agency's capacity to render technical assitance waned. But now the movement from a categorically based funding posture toward a more general financial support means that it is not simply desirable but essential that we construct the new role, mission, and purpose in life, consistent with what we should have been doing over the years.

The technical assistance function that I am speaking about would be quite apart and distinct from the programmatic role—and bear in mind that there *will* continue to be categorical programs under revenue sharing. Actually, we will still be responsible for several billion dollars' worth, including a greatly expanded higher education student aid effort as well as continuing discretionary resources for educational reform. Thus, technical assistance would encompass, first, our research and dissemination functions which are now centralized in the National Institute of Education; second, the new Fund for the Improvement of Postsecondary Education; and, third, a reoriented role for the Office of Education itself as a center for professional expertise in teaching and learning as distinct from paper passing.

Correspondingly, the emerging movement toward increased State responsibility for the expenditure of Federal funds, and the immense impact this shift in policy will produce at the State level, make it imperative for the Education Division to provide leadership and assistance and direction through presenting to State and local systems alternative means of dealing with pressing problems.

How will this work? In a thousand ways in actual practice, of course, but, in general, the various Education Division components must study deeply and advise on matters of national educational need and inform Congress on progress toward meeting them. Further, the organization could be a prompter, facilitator, and advocate in a variety of constructive Federal and State or Federal, State, and local joint initiatives in education and in this way eliminate some of the roadblocks to delivery of Federal services. This new position would, of course, be entirely advisory in contrast to the authoritarian regulation-enforcing characteristics of the categorical design. This intriguing metamorphosis is a direct expression of the philosophy underlying the Better Schools Act of 1973 which looks to the States as the initiators and leaders of the reform and renewal of their own houses of education. Helping them do their job will be our basic purpose.

The conception really isn't all that new as far as the Office of Education is concerned, however, and we intend to build carefully and substantially upon OE's already extensive experience in providing technical assistance to SEA's and LEA's. The agency has worked for more than a decade, for example, in helping districts desegregate under the provisions of Title IV of the Civil Rights Act, a role we have expanded under the new Emergency School Assistance Program; our Right to Read specialists, in another area of technical assistance, find themselves at this point literally swamped with requests for help, and are quite frankly unable to do all they are asked to do; another example can be found in the ESEA Title I State Program Reviews which were designed to determine how the States were handling the law's mandates; still another is the State Management Review activity in the later 60's and early 70's under the ESEA Title V program. The SMR's started out only as a check on State administration of Federal funds, but later expanded—at the States' request, of course—to embrace review and recommendations in all areas of State agency administrative functions. SMR teams have visited all 50 States at least once and were in some States two or more times over the past two years.

The School Finance Task Force itself is right now giving us a particularly extensive and valuable insight into the possibilities for Federal technical assistance.

The Task Force was established in direct response to a command from President Nixon to design solutions to elementary and secondary finance problems. Thus, its mission at first was to examine the school finance situation in the States in the wake of the Serrano decision and to sort out the implications for large-scale Federal action. But its functions have gone well beyond that stage.

Over the past year this 10-person team has been asked by 28 States for technical assistance of some kind or other and in 17 States this involved at least one and as many as five on-site visits. Twenty State education agencies, seven legislative staffs and four governors commissions have been given assistance one or more times. But that is not all. Analyses are being made, mostly under contract with outside experts, of outstanding finance study procedures and of major legislation introduced this year. As part of a long-range strategy, a series of substantial papers are now underway, partly by staff and partly by outside experts, dealing with problems and issues ranging from property taxation to the dimensions of local control, that are of concern to State lawmakers in their efforts to improve financing of the schools. Thus, from this first year of substantial progress, we may expect the School Finance Task Force role to be an integral and continuing part of the Education Division's responsibility for assisting the States. We also see NIE as having a significant role in providing long overdue answers to pressing questions. We need to know a lot more than we do about such things as the correlation between educational expenditures and the quality of the instructional programs; about how to measure educational need and translate it into financial terms; about the variations in educational costs associated with different curriculum approaches and different children including the gifted, the handicapped, the geographically dispersed, and always the disadvantaged.

The States in most instances have neither the facilities, the manpower, the time, or the money to dig out information through extended research to analyze their own problems, to explore alternative answers, or to find out what the other States are doing and whether practices and procedures developed in New York, as an example, might not be perfectly applicable in Ohio or Nevada or New Mexico. I believe the Education Division can bridge that information gap and help in an important way to develop solutions that will work in *all* the States, not as the expression of an inflexible, paper-theory national policy, but as a sensitively blended compound of national resource, State initiative, and local understanding.

In theory, of course, there is nothing new in what I have told you today. The Federal education establishment has always been intended to act as the catalyst that would facilitate and speed up the reaction time between the kind of studies you are pursuing in public and private institutions and the implementation of usable new theories at the classroom level. We were supposed to give the push that would finally put educational reform in action.

Like the talent in the Bible, that sterling purpose of ours had been lost, but is found again. This time, with your help, we intend to expand our capacity to help, not deluded that we are on the high road to perfection and determined to sweep aside all that bars our way, but in a humbler, wiser, and certainly more realistic comprehension of just what the Federal Government can do for education to help make things better.

Gazing into my crystal ball at 400 Maryland Avenue, I predict that over the next 10 years the Federal role in education will at least triple in dollars, diminish in categorical, dictatorial authority, and greatly increase in the delivery—on call—of sound, workable solutions to the eternal problems which dog our pursuit of educational excellence.

School Finance Reform in the States: What Should Be Done?

John J. Callahan and William H. Wilken

Mr. Callahan, Advisory Commission on Intergovernmental Relations, Washington, D.C.; Mr. Wilken is a member of the Political Science Department, Georgia State University.

Powerful judicial and political forces are now producing the most sweeping revision of state school finance systems in American history. Since 1970, state courts have invalidated the school finance systems of California, Michigan and New Jersey.[1] State legislatures have approved major revisions in the educational funding systems of Minnesota, Kansas, North Dakota and Utah.[2] Equally important, significant revisions are now being discussed in states ranging from Maine to Oregon.[3]

Regardless of the state, most proposals for school funding reform share a common objective: equalization of school district taxes and expenditures. Accordingly, it would be reasonable to anticipate that reform programs would convey the greatest benefits to school districts with the most extraordinary fiscal needs and the most deficient fiscal resources. There is an increasing amount of evidence, however, which indicates that this expectation may prove unfounded, especially for school districts in major cities.

Clearly, most major city school districts have exceptional fiscal problems. Much more than most other school districts, they must educate concentrations of minority pupils, must compete with municipalities for available tax dollars, must meet exceptional operating costs, and are deeply in debt.[4] Close analysis of existing reform plans, however, indicates that many are unlikely to deal with these problems any more effectively than existing state finance systems.

Wilken and Levin, for example, show that Minnesota's widely heralded school finance reform plan has produced significant reductions in property tax rates and some increases in expenditures, but has yielded very little redistribution of resources from the *status quo ante*.[5] Consequently, the state's city school districts are not much better off relative to all other districts today than they were prior to reform.

In the same vein, Berke and Callahan suggest that one widely discussed reform, full state funding, is likely to reduce major cities' school expenditures while increasing their school taxes.[6] Similarly, an analysis of seven school finance reform plans proposed in Kansas, Michigan, Minnesota and New York indicates that only two would provide cities with more than $200 per pupil in additional aid. All the others would cause cities to lose aid either to suburban or rural districts.[7]

What, then, should be done? One recent and widely-read study of school funding argues that states can achieve "fair" equalization of school district finances by distributing aid in inverse relation to the per pupil revenue yield of local educational tax effort.[8] Correspondingly, it asserts that several other widely discussed criteria—income, municipal overburden, factor cost, and educational need are basically irrelevant, dismissing them as ". . . important to think about but not essential to act upon . . ." in any initial reform program.[9] Focusing on the nation's major cities and their respective states, this paper evaluates this judgment.

TAX EFFORT-REVENUE YIELD PARITY

On the face of things, equalizing school district revenues on the basis of educational tax effort seems to be quite fair. As its proponents contend, it would guarantee equal treatment to both taxpayers and schoolchildren regardless of their school district. Put another way, it would make school finance a function of state wealth. Simulation analysis, however, suggests that this prescription may be much less equitable than it seems.

Assume, for instance, that states with major city school districts decide to guarantee parity between educational tax effort and per pupil revenue through district power-equalizing aid systems. Assume, moreover, that the district power-equalizing aid systems require no new state funds and that all school districts maintain their 1971-72 expenditure levels. As Table 1 shows, this would result in a reduction of state aid to about half of the nation's major city school districts, the unweighted mean aid occasionally decreasing by about 50 percent. Additionally, almost all major city school districts would be forced to raise their tax rates—and owing to their relative property wealth, often substantially. As Table 1 reveals, educational tax rate increases of over 100 percent would be common with the average increment ranging between 50 and 60 percent.

But what if tax effort-revenue yield parity were assured through another type of state aid system? Or what if school districts elected expenditure levels greatly different from the 1971-72 levels? In either event, most signs point to the fact that major city school districts

TABLE 1

ACTUAL AND SIMULATED STATE AID AND TAX RATES BY CITY*

City by Region	*State Aid Per Pupil*		*Educational Mill Levy*	
	Actual 1971-72	*Simulated, District Power Equalizing*	*Actual 1971-72*	*Simulated, District Power Equalizing*
NORTHEAST				
Baltimore	$420	$352	12	16
Boston	242	226	29	29
Newark	363	365	38	27
Buffalo	676	627	14	12
New York	559	556	16	24
Rochester	574	663	17	17
MIDWEST				
Chicago	399	319	13	16
Indianapolis	266	236	16	18
Detroit	362	168	10	34
Minneapolis	391	422	18	19
St. Louis	247	185	11	18
Cincinnati	147	106	10	32
Cleveland	139	112	11	25
Columbus	162	184	14	19
Dayton	177	112	11	34
Milwaukee	184	228	18	24
SOUTH				
Miami	391	502	11	10
Atlanta	246	410	12	24
New Orleans	349	166	3	16
Dallas	275	194	9	14
Houston	322	191	9	14
San Antonio	375	178	9	12
WEST				
Los Angeles	318	376	13	15
Long Beach	184	303	10	14
Riverside	332	327	11	11
San Diego	278	323	11	11
San Francisco	207	307	10	24
Oakland	230	380	13	14
Denver	192	229	17	18
Portland	157	108	14	25

Source: National Education Association Research Division, "Local School System Budget Surveys," (1971-72). State data are drawn from selected state sources.

*For example of calculations, see Appendix.

would be placed at a fiscal disadvantage relative to most other school districts. One key reason, of course, is that major city school districts tend to have much greater property wealth per pupil than most other school districts. Accordingly, as Table 2 shows, one mill of educational tax effort in major city school districts usually raises much more revenue per pupil than in most other school districts. Consequently, so long as states attempt to equalize solely on the basis of an effort-yield relationship, major city school districts are likely to face both an increase in relative school taxes and a decrease in relative state aid.

TABLE 2

CITY-STATE PER PUPIL TAX YIELDS, 1971-72

	Revenue Yield Per Mill of Property Tax Effort		
City by Region	*City*	*State*	*City/State Ratio*
NORTHEAST			
Baltimore	$ 23.38	$34.74	67
Boston	20.79	26.66	78
Newark	11.76	26.72	44
Paterson, Clifton-Passaic	N.A.	N.A.	N.A.
Buffalo	25.19	34.99	72
New York City	50.04	34.99	143
Rochester	38.13	34.99	109
Philadelphia	22.73	19.77	115
MIDWEST			
Chicago	57.13	42.01	136
Indianapolis	17.64	17.82	99
Detroit	18.60	18.79	99
Minneapolis	57.40	25.51	225
Kansas City	26.99	23.07	117
St. Louis	28.15	23.07	122
Cincinnati	30.18	25.15	120
Cleveland	31.94	25.15	127
Columbus	21.88	25.15	87
Dayton	26.66	25.15	106
Milwaukee	29.91	27.95	107
SOUTH			
Miami	35.71	28.57	125
St. Petersburg	21.14	28.57	74
Atlanta	48.28	17.12	282
Louisville	38.11	29.16	131
New Orleans	42.56	25.64	166
Dallas	57.60	16.99	339
Houston	42.31	16.99	249
San Antonio	25.99	16.99	153
WEST			
Los Angeles–Long Beach	60.09/40.07	45.53	132/88
San Bernardino–Riverside–Ontario	53.88	45.53	118
San Diego	49.63	45.53	109
San Francisco–Oakland	112.63/66.01	45.53	247/145
Denver	47.75	29.66	161
Portland	35.29	32.38	100

Source: National Education Association Research Division, "Local School System Budget Surveys," (1971-1972). State data are drawn from selected state education department reports.

Equalization and Income

But is this fair? This, of course, is debatable. It is quite clear, however, that it ignores the fact that major city school districts must collect their property taxes, in part, from individuals whose incomes are not very much higher than those living in most other school districts. As Table 3 indicates, per pupil property values yields in 42 of the largest American cities are 26 percent greater than the unweighted average of their respective states, yet per capita incomes in the same cities are only 5 percent greater.

In one respect, however, even per capita incomes overstate the wealth of major city school districts. Although major city school districts have slightly above average per capita incomes, they not only have a far greater concentration of poor families than most other school districts, but also have a relative lack of affluent families. As Table 4 reveals, the proportion of poverty families in the nation's major cities during 1969 was 10 percent greater than in their respective states; moreover, the proportion of affluent families was 7 percent less.

Equalization and Municipal Overburden

Equalization on the basis of educational tax yield not only fails to recognize that cities have a high concentration of poor people, but also ignores the fact that cities face extraordinary noneducational needs and demands. As Table 5 shows, the nation's largest cities have per capita police expenditures that are 53 percent higher than the average of their respective states, have fire protection expenditures that are 91 percent higher, and have refuse and disposal expenditures that are 87 percent greater. Similarly, where the same cities have responsibility for the function, health and hospital costs are 75 percent higher, and sewage costs are 66 percent higher.

The higher cost of these services reflects itself in the much lower proportion of local budgets that cities can allocate to education. As Table 6 shows, central cities in the nation's 36 largest metropolitan areas allocate 33 percent of their budget for education, while their suburbs and local governments in the same states devote 57 percent and 46 percent respectively. Hence, if cities could devote the same share of their local expenditures to education as their surrounding suburbs, they would outspend suburban and rural districts by far.

The retarding effects of municipal overburdens are especially notable when one notes the level of effective major city local tax rates. As Table 7 shows, major city school districts not only have considerable non-educational fiscal requirements, but they also have local tax rates that are rarely surpassed by other jurisdictions in a state. Thus, in the 36 central city areas surveyed, 16 have total local tax rates that are more than 20 percent above the state average; while several have tax rates that range as high as 70 percent above the state average. These excessively high effective local tax rates make it virtually impossible for these jurisdictions to raise their taxes for education or

TABLE 3

CITY-TO-STATE RATIOS OF PER PUPIL PROPERTY VALUES AND PER CAPITA INCOME, 1970-1972

	City-to-State Ratio of:		
City by Region	*(1) Per Pupil Property Values, 1971-72*	*(2) Per Capita Income, 1970*	*(1)/(2)*
NORTHEAST			
Baltimore	67	81	83
Boston	78	88	88
Newark	44	89	49
Buffalo	72	83	87
New York City	143	102	140
Rochester	109	95	115
Philadelphia	115	95	121
MIDWEST			
Chicago	136	100	136
Indianapolis	99	114	87
Detroit	99	108	92
Minneapolis	225	122	184
Kansas City	117	109	107
St. Louis	122	95	128
Cincinnati	120	105	114
Cleveland	127	92	138
Columbus	87	105	83
Dayton	106	96	110
Milwaukee	107	109	98
SOUTH			
Miami	125	110	114
St. Petersburg	74	107	69
Atlanta	282	127	222
Louisville	131	118	111
New Orleans	166	115	144
Dallas	339	128	265
Houston	249	118	211
San Antonio	153	85	180
WEST			
Los Angeles–Long Beach	132/88	112/110	118/80
San Bernardino–Riverside–Ontario	118	96	123
San Diego	109	96	114
San Francisco–Oakland	247/145	116/106	213/137
Denver	161	119	135
Portland	109	118	92

Source: National Education Association Research Division, "Local School System Budget Surveys," (1972). *Sales Management's Survey of Buying Power*, (1971).

any other pressing service. Indeed, by further raising taxes, central cities are promoting the continued flight of middle and upper income families and taxable property values from city to suburban areas. The loss of tax base, in turn, creates further tax pressure on the central city.

TABLE 4

CITY-STATE PROPORTIONS OF POOR AND RICH FAMILIES, 1969

City by Region	% of Families Having Income Less Than Poverty Level 1969		% of Families Earning More Than $15,000 1969	
	City	*State*	*City*	*State*
NORTHEAST				
Baltimore	14.0	7.7	16.7	28.6
Boston	11.7	6.2	18.1	25.2
Paterson, Clifton-Passaic	9.2	6.1	21.9	29.5
Newark	18.4	6.1	12.4	29.5
Buffalo	11.2	8.5	14.1	26.5
New York City	11.5	8.5	23.6	26.5
Rochester	8.9	8.5	20.5	26.5
Philadelphia	11.2	7.9	18.2	18.3
Pittsburgh	11.1	7.9	16.3	18.3
Providence	11.7	8.5	17.4	18.9
MIDWEST				
Chicago	10.6	7.7	23.3	26.4
Indianapolis	7.1	7.4	24.9	19.4
Detroit	11.3	7.3	22.6	26.7
Minneapolis–St. Paul	6.9	8.2	22.2	20.3
Kansas City	8.9	11.5	20.2	17.1
St. Louis	14.3	11.5	13.0	17.1
Cincinnati	12.8	7.6	17.6	21.6
Cleveland	13.4	7.6	15.3	15.3
Columbus	9.8	7.6	18.5	18.5
Dayton	10.6	7.6	19.0	19.0
Milwaukee	8.1	7.4	19.2	19.8
SOUTH				
Miami	10.9	12.7	21.5	16.8
Tampa–St. Petersburg	10.7	12.7	14.2	16.8
Atlanta	15.9	16.7	18.9	15.2
Louisville	13.0	19.2	15.1	11.6
New Orleans	21.6	21.5	19.9	12.8
Dallas	10.1	14.6	25.1	16.5
Houston	10.7	14.6	22.9	16.5
San Antonio	17.5	14.6	13.3	16.5
WEST				
Los Angeles–Long Beach	9.7	8.4	27.7	26.7
San Bernardino–Riverside–Ontario	10.2	8.4	20.9	26.7
San Diego	9.3	8.4	24.4	26.7
San Francisco–Oakland	10.7	8.4	25.8	26.7
Denver	9.4	9.1	21.4	19.7
Portland	8.1	8.6	20.5	18.0
Seattle-Everett	6.2	7.6	26.5	22.8

Source: U.S. Bureau of the Census, *1970 Census of Population: General Social and Economic Characteristics*, PC-1C, Tables 184, 188.

TABLE 5

CITY-STATE PER CAPITA NON-EDUCATIONAL EXPENDITURE COMPARISONS, 1969-70

	City-State Per Capita Expenditure Ratio, 1969-70				
City by Region	*Police*	*Fire*	*Refuse*	*Sewers*	*Health Hospitals*
NORTHEAST					
Baltimore	231	224	192	54	224
Boston	230	158	179	122	339
Newark	251	286	223	N.A.	178
Paterson, Clifton-Passaic	126/87/101	194/176/159	74/118/105	N.A.	N.A.
Buffalo	95	171	153	55	N.A.
New York City	160	153	151	73	180
Rochester	72	144	188	547	N.A.
Philadelphia	274	262	277	71	396
Pittsburgh	267	371	291	N.A.	N.A.
Providence	154	162	190	58	68
MIDWEST					
Chicago	198	174	228	N.A.	64
Indianapolis	200	193	195	229	N.A.
Detroit	202	169	289	72	78
Minneapolis–St. Paul	165/153	238/269	248/247	149/144	N.A.
Kansas City	164	197	167	177	90
St. Louis	281	204	250	N.A.	280
Cincinnati	190	269	196	185	160
Cleveland	259	239	314	95	218
Columbus	167	182	135	196	141
Dayton	158	232	213	105	N.A.
Milwaukee	194	169	258	116	N.A.
SOUTH					
Miami	134	152	213	103	108
Tampa–St. Petersburg	110/85	146/89	104/121	92/105	122
Atlanta	203	263	328	268	N.A.
Louisville	267	289	258	268	86
New Orleans	184	222	172	208	N.A.
Dallas	175	191	184	148	N.A.
Houston	129	195	99	194	N.A.
San Antonio	107	103	120	136	N.A.
WEST					
Los Angeles–Long Beach	144-127	122-145	156-158	N.A.	N.A.
San Bernardino–Riverside–Ontario	94/75/75	136/119/139	164/184/135	124/101/37	N.A.
San Diego	74	77	103	102	N.A.
San Francisco–Oakland	156/127	225/154	99/41	N.A.	219
Denver	169	199	262	101	206
Portland	185	230	214	155	N.A.
Seattle-Everett	210	206	238	143	N.A.

Source: U.S. Bureau of the Census, *City Finances, 1969-70,* Table 7. U.S. Bureau of the Census, *Government Finances, 1969-70,* Tables 18, 26.

TABLE 6

CITY-STATE COMPARISON OF PROPORTION OF EXPENDITURES USED FOR EDUCATION, 1969-70

City by Region	*Percent of Local Expenditures Being Used for Education, 1969-70*	
	City	*State*
NORTHEAST		
Baltimore	34	49
Boston	26	45
Newark	28	44
Paterson, Clifton-Passaic	34	44
Buffalo	34	33
New York City	20	33
Rochester	31	33
Philadelphia	35	54
Pittsburgh	34	54
Providence	35	51
MIDWEST		
Chicago	30	47
Indianapolis	41	54
Detroit	37	50
Minneapolis–St. Paul	29	48
Kansas City	33	52
St. Louis	30	52
Cincinnati	23	45
Cleveland	39	45
Columbus	33	45
Dayton	38	45
Milwaukee	29	40
SOUTH		
Miami	37	48
Tampa–St. Petersburg	42	48
Atlanta	39	48
Louisville	23	56
New Orleans	36	51
Dallas	39	52
Houston	45	52
San Antonio	43	52
WEST		
Los Angeles–Long Beach	28	35
San Bernardino–Riverside–Ontario	37	35
San Diego	33	35
San Francisco–Oakland	23	35
Denver	34	47
Portland	39	53
Seattle-Everett	29	52

Source: Seymour Sacks and John J. Callahan, "Central City–Suburban Fiscal Disparities," Appendix D, U.S. Advisory Commission on Intergovernmental Relations, *Financial Emergencies in American Cities,* (1973 forthcoming).

TABLE 7

CITY-STATE COMPARISON OF TOTAL LOCAL TAX RATES PER $1,000 PERSONAL INCOME, 1969-70

City by Region	Total Local Taxes Per $1,000 Personal Income, 1969-70 City	State
NORTHEAST		
Baltimore	8.40	6.00
Boston	11.70	6.90
Newark	10.00	6.70
Paterson-Clifton-Passaic	6.30	6.30
Buffalo	7.20	8.00
New York City	9.50	8.00
Rochester	7.30	8.00
Philadelphia	7.70	8.00
Pittsburgh	8.80	5.00
Providence	5.80	5.00
MIDWEST		
Chicago	6.40	6.00
Indianapolis	7.00	5.10
Detroit	7.00	5.60
Minneapolis–St. Paul	5.90	5.40
Kansas City	7.50	5.30
St. Louis	9.10	5.30
Cincinnati	7.20	5.40
Cleveland	9.70	5.40
Columbus	6.10	5.40
Dayton	7.60	5.40
Milwaukee	9.00	6.60
SOUTH		
Miami	5.10	4.30
Tampa–St. Petersburg	4.20	4.30
Atlanta	7.00	3.80
Louisville	5.80	3.00
New Orleans	4.80	3.70
Dallas	5.20	4.60
Houston	5.00	4.60
San Antonio	3.90	4.60
WEST		
Los Angeles–Long Beach	7.80	7.50
San Bernardino–Riverside–Ontario	7.50	7.50
San Diego	5.70	7.50
San Francisco–Oakland	10.20	7.50
Denver	7.30	7.00
Portland	6.90	6.10
Seattle-Everett	4.90	4.10

Source: U.S. Bureau of the Census, *Government Finances*, 1969-70, Tables 18, 26.

TABLE 8

DIFFERENTIAL ASSESSMENT RATIOS BY TYPE OF PROPERTY, 1966-67

City by Region	*Assessment Ratio for:* *All Property*	*Residential Property*	*High Value Residential Property*	*Low Value Residential Property*
NORTHEAST				
Baltimore	68.6	67.1	60.8	86.9
Boston	37.4	31.7	23.8	39.4
Newark	73.7	70.1	58.7	75.8
Paterson-Clifton-Passaic	71.1	73.4	65.7	79.7
Buffalo	69.1	61.8	54.9	79.4
New York City	49.0	44.0	35.6	50.0
Rochester	38.9	39.4	30.0	46.4
Philadelphia	58.1	58.5	53.1	67.8
Pittsburgh	43.6	41.0	33.8	48.5
Providence	67.9	65.5	60.5	76.6
MIDWEST				
Chicago	39.4	36.3	28.1	41.6
Indianapolis	32.3	30.4	26.7	36.4
Detroit	40.3	42.2	34.5	47.9
Minneapolis–St. Paul	10.0/9.0	9.7/8.4	8.1/6.4	10.9/9.3
Kansas City	26.4	26.1	20.8	30.4
St. Louis	41.0	36.2	30.0	43.7
Cincinnati	44.5	44.2	37.9	48.6
Cleveland	36.3	35.0	30.6	38.5
Columbus	38.2	38.4	35.0	41.6
Dayton	37.3	36.8	30.8	43.4
Milwaukee	51.1	49.2	47.0	60.1
SOUTH				
Miami	71.6	83.6	72.4	96.8
Tampa–St. Petersburg	49.3	49.9	44.9/68.4	56.5/92.6
Atlanta	25.3	18.9	16.1	21.8
Louisville	91.8	92.6	82.6	100.4
New Orleans	21.8	22.6	18.0	28.7
Dallas	18.1	19.5	16.5	22.0
Houston	17.7	18.9	16.5	21.2
San Antonio	22.3	24.2	N.A.	N.A.
WEST				
Los Angeles–Long Beach	19.6/19.0	17.6/19.8	17.0/16.9	24.1/22.3
San Diego	20.7	22.9	18.9	22.9
San Francisco–Oakland	11.1/14.7	9.7/14.7	7.0/13.3	11.6/16.4
Denver	28.7	28.9	26.6	31.7
Portland	20.6	21.5	18.6	24.3
Seattle-Everett	16.3	15.7	13.6	17.5

Source: U.S. Bureau of the Census, *1967 Census of Governments, Taxable Property Values* vol. 2, Tables 19-21.

Given this combination of municipal and total tax overburden, do major cities have any way of circumventing this chain of fiscal dependence? The answer has to be negative. Indeed, cities have attempted to follow tax policies that would alleviate these tax burdens, yet many eventually may prove counterproductive. As Table 8 indicates, many major cities attempt to cope with the overburden problem by overassessing higher-priced residences and nonresidential property. This practice, of course, increases tax burdens on more wealthy properties and provides an inducement for their owners to locate elsewhere.

Another policy cities attempt to follow is the adoption of taxes that effectively tap the incomes of suburban residents. Thus, municipal income taxes have been adopted in 12 of the 47 largest cities in the country; local sales taxes are utilized in 21 of these same cities. Yet, as the economic dominance of most large cities wanes, the usefulness of these taxes will subside. Indeed, the phenomenal growth of suburban sales and employment may already herald the futility of cities adopting these local revenue instruments. Moreover, in a number of other cases, overlying governments, particularly counties, are taking responsibility for the use of these revenue instruments. As this occurs, cities are preempted from using these instruments.

Cities also have to contend with a host of countervailing forces that hinder their attempts to offset their local tax burdens. Thus, in a number of cities, overlapping governments such as counties and areawide special districts have control over taxing and spending policies that affect central city areas. Indeed, as Table 9 indicates, these jurisdictions account for 17 percent of all local expenditures in the nation's major cities, with the share ranging as high as 40 percent in Los Angeles.

Given all these problems in reducing city tax burden, urban areas have increasingly turned to higher levels of government for assistance. Indeed, analysis done since 1957 indicates that cities are generally receiving higher levels of overall state and federal aid since 1957. At the same time cities' expenditures have increased at an even faster rate so that State and Federal aid as a percent of local expenditure is generally no higher in large cities now than it was in 1957. Especially since State and Federal aid is still a minor part of many noneducational functions, cities will continue to be financing functions that do not receive overly substantial external support. Thus, higher levels of government have not aided city-type functions at the same rate as education.

EQUALIZATION AND EDUCATIONAL COSTS

Just as school tax yield equalization fails to acknowledge major cities' municipal overburden, it also does nothing to relieve their exceptional educational costs. Well-financed educational cost corrections, however, would benefit most major city school districts dramatically. Data provided by the U.S. Office of Education indicate that major city school districts exceed all other school districts in all but two cost categories: administration and transportation. And as Table 10 shows,

TABLE 9

CITY AREA EXPENDITURES, 1969-70

	City Area Expenditure, 1969-70	
City by Region	*Amount*	*Proportion Attributable to City and School District*
NORTHEAST		
Baltimore	$638	100%
Boston	531	100
Newark	735	91
Paterson-Clifton-Passaic	381	100
Buffalo	528	70
New York City	894	94
Rochester	699	76
Philadelphia	495	96
Pittsburgh	450	77
Providence	392	97
MIDWEST		
Chicago	498	76
Indianapolis	355	76
Detroit	474	87
Minneapolis–St. Paul	540	64
Kansas City	485	85
St. Louis	463	87
Cincinnati	761	92
Cleveland	512	80
Columbus	398	82
Dayton	456	87
Milwaukee	562	72
SOUTH		
Miami	481	70
Tampa–St. Petersburg	372	79
Atlanta	554	82
Louisville	508	100
New Orleans	334	92
Dallas	352	86
Houston	305	83
San Antonio	252	84
WEST		
Los Angeles–Long Beach	624	60
San Bernardino–Riverside–Ontario	635	66
San Diego	484	67
San Francisco–Oakland	768	89
Denver	502	95
Portland	486	79
Seattle-Everett	524	69

Source: Seymour Sacks and John J. Callahan, "Central City–Suburban Fiscal Disparities," Appendixed D, U.S. Advisory Commission on Intergovernmental Relations, *Financial Emergencies in American Cities,* (1973 forthcoming).

the cost gap is especially great when major city school districts are compared to their respective suburbs. On the average, major city school district expenditures exceed those of their suburbs by an average of about $25 per pupil in all of the following categories: professional and nonprofessional salaries, auxiliary services, attendance, maintenance of plant, and fixed charges.

TABLE 10

PER PUPIL EDUCATIONAL COSTS BY EXPENDITURE CATEGORIES
LARGE CITIES, CENTRAL CITIES, SUBURBS, AND RURAL AREAS
1968-1969

	Per Pupil Expenditure				
District Type	*Total*	*Instruction*	*Health*	*Plant Operation*	*Fixed Charges*
Large Central Cty	$719	$523	$6	$60	$65
Central City	675	498	6	54	56
Suburban	670	490	6	55	50
Rural	562	411	3	42	37
Total U.S.	632	464	5	50	47

Source: U.S. Office of Education, *Statistics of Local Public School Systems: Finances, 1970*, Table G.

No doubt, part of the expenditure gap between cities and suburbs can be explained by differences in educational preferences. There is a substantial amount of circumstantial evidence, however, which suggests that much of the gap results from differences in three cost factors. One is the nature of the pupil population. Often poor, often hostile to public schools, pupils in major city school districts tend to require greater expenses for such items as attendance and health services than their counterparts in suburban and rural school districts. Another factor is the nature of major city factor costs. Owing to the high cost of land, for example, major city school district capital costs are almost always higher than those of most other school districts. Similarly, and as Tables 11 and 12 indicate, cities must pay significantly higher teacher salaries than most other areas, these higher salaries being necessitated in part by the competitiveness of the labor market, in part by unionization of teachers, and in part by the higher cost of living.

EQUALIZATION AND EDUCATIONAL NEED

In the final analysis, perhaps the greatest shortcoming of school tax yield equalization is that it would fail to acknowledge variations in educational need. As Table 13 suggests, however, major city school districts face extraordinary need, with nearly one-third of their pupils having mental handicaps, physical handicaps or special learning disorders. Additionally, they must educate large numbers of pupils requiring either vocational or compensatory education.

TABLE 11

CITY-STATE TEACHER SALARY SCHEDULE DIFFERENTIALS BY SCHOOL DISTRICT SIZE, 1972

	District Size	
Salary Minimums and Maximums by Degree	*School Districts 100,000+ Pupils (N = 27)*	*All Surveyed Districts (N = 1,179)*
Bachelor's Degree		
Mean Minimum Salary	$ 7,503	$ 7,061
% Systems Paying $7,500+	22.2%	14.0%
Mean Maximum Salary	11,684	10,299
% Systems Paying $13,000+	25.9%	8.4%
Master's Degree		
Mean Minimum Salary	8,215	7,837
% Systems Paying $8,500+	29.6%	22.4%
Mean Maximum Salary	13,170	11,973
% Systems Paying $15,000+	25.9%	9.4%
Six Years of College		
Mean Minimum Salary	8,805	8,501
% Systems Paying $9,000+	32.0%	32.1%
Mean Maximum Salary	14,208	13,308
% Systems Paying $16,000+	24.0%	11.0%
Doctor's Degree or Seven Years College		
Mean Minimum Salary	9,186	8,943
% Systems Paying $9,750+	26.1%	24.1%
Mean Maximum Salary	14,371	13,805
% Systems Paying $17,000+	21.7%	18.4%

Source: National Education Association Research Division, *Salary Schedules for Teachers 1970-71*, Table 6A, 6B.

Not only do these students make up a considerable proportion of central city enrollments, as Table 14 indicates, they are more heavily concentrated in city areas than in other parts of most states. Indeed, looking at the relative city and state concentrations of compensatory education pupils it is not uncommon to see city concentrations exceed the state average by a ratio of more than two to one. While data for other types of pupils are not immediately available, all indications point to the concentration of major city school districts.

The disproprotionate loading of these students in city districts adds another dimension of the urban educational crisis. Due to the higher expenditure requirements for these students, cities must devote more fiscal resources to these students. They either must drastically lower teacher-pupil ratios as has been suggested or make available a whole host of other types of resources for such pupils. Given the fact that those resources also cost more on the average in cities, the fiscal bind is indeed a cruel one.

The magnitude of the fiscal burden imposed by these pupils can be indicated by calculating the expenditure or teacher requirements that would be necessary if all these pupils were weighted in accord

TABLE 12

CITY-STATE COMPARISON OF TEACHER SALARIES, 1971

District by Region	*Average Classroom Teacher Salary* City	*Average Classroom Teacher Salary* State	*Share of Teachers Earning More Than $15,000* City	*Share of Teachers Earning More Than $15,000* State
NORTHEAST				
Baltimore	$ 9,373	$10,091	15.1%	6.2%
Boston	9,900	9,500	N.A.	4.8
Newark	10,207	10,050	24.1	8.7
Paterson-Clifton-Passaic	9,802	10,050	4.7	22.0
Buffalo	10,035	11,100	13.1	22.0
New York City	10,971	11,100	33.9	22.0
Rochester	10,524	11,100	22.4	22.0
Philadelphia	11,170	9,300	36.4	12.2
MIDWEST				
Chicago	11,017	10,233	29.3	9.6
Indianapolis	9,927	9,272	3.4	1.6
Detroit	11,414	10,647	45.4	11.0
Minneapolis–St. Paul	10,484	9,271	26.9	8.0
Kansas City	10,001	8,373	3.2	0.0
St. Louis	9,858	8,373	.2	0.0
Cincinnati	9,944	8,798	6.1	3.2
Cleveland	9,681	8,798	5.8	3.2
Columbus	9,236	8,798	6.9	3.2
Dayton	10,030	8,798	1.7	3.2
Milwaukee	10,575	9,640	16.0	4.2
SOUTH				
Miami	9,999	8,805	13.9	2.0
Tampa–St. Petersburg	N.A.	N.A.	N.A.	N.A.
Atlanta	8,962	7,778	.4	N.A.
Louisville	N.A.	N.A.	N.A.	N.A.
New Orleans	8,657	8,340	N.A.	.2
Dallas	8,813	8,325	N.A.	.1
Houston	8,962	8,325	N.A.	.1
San Antonio	8,113	8,325	N.A.	.1
WEST				
Los Angeles–Long Beach	11,555	11,022	34.8	20.0
San Bernardino–Riverside–Ontario	N.A.	N.A.	N.A.	N.A.
San Diego	11,158	11,022	4.9	20.0
San Francisco–Oakland	11,465	11,022	7.6	20.6
Denver	10,014	8,260	21.7	1.8
Portland	9,762	9,298	N.A.	.7
Seattle-Everett	10,791	9,250	33.9	5.9

Source: National Education Association Research Division, *25th Annual Salary Survey of Public School Personnel, 1970-71.*

with the findings of the National Educational Finance Project (NEFP). As Table 15 reveals, applying NEFP weights would require many major city school districts to increase their per pupil expenditure levels about 50 percent.

TABLE 13

SHARE OF TOTAL ENROLLMENT BY SPECIAL NEED CATEGORY, 1971-72

	Share of Total Enrollment:				
City by Region	*Physically or Mentally Handicapped*	*With a Special Learning Disorder*	*Title I Eligible*	*Vocational Technical*	*Total Special Students*
NORTHEAST					
Boston	3.7%	4.7%	36.1%	1.5%	48.0
Buffalo	4.0	N.A.	31.4	9.0	44.4
Pittsburgh	3.8	.5	48.9	7.2	60.5
MIDWEST					
Chicago	2.5	.1	60.8	27.1	90.5
Detroit	2.6	.3	32.7	.6	36.2
Minneapolis	3.8	7.8	16.8	2.9	31.3
St. Louis	5.2	.2	29.8	7.0	42.2
Cleveland	1.3	.1	43.1	6.7	51.2
Milwaukee	2.7	N.A.	37.2	N.A.	39.9
SOUTH					
Atlanta	.8	.1	7.3	4.9	13.1
Houston	2.2	N.A.	25.7	7.3	35.2
WEST					
Los Angeles	1.9	5.2	34.6	12.9	54.6
San Diego	1.5	.5	9.5	6.1	17.6
San Francisco	2.2	.8	32.4	1.9	37.3
Denver	3.6	.9	16.4	5.2	26.1
Portland	5.2	2.3	52.7	10.2	70.4

Source: Authors' survey of pupil enrollments in member cities of the Great Cities School Council, 1972. U.S. Department of Health, Education, and Welfare, *Public Assistance Statistics of 1972* (SRS 73-03100), Table 7.

The strain this education overburden places on urban districts might be expressed in another way. As indicated earlier, many states express school district wealth on a per pupil basis. But as Table 16 indicates, using NEFP weights in calculating fiscal capacity would reduce the apparent wealth of many major cities by about 50 percent. Similarly, using pupil weights suggested by the President's Commission on School Finance would reduce the wealth of major city school districts even further.

CONCLUSION

In brief, it is clear that parity between tax effort and revenue yield will not by itself insure fiscal justice for most major city school districts. This, of course, is not to assert that tax effort-revenue yield parity is undesirable as an equalization mechanism. Rather it is to argue that it is insufficient as an equalization mechanism. But how do we create an adequate mechanism?

TABLE 14

CONCENTRATIONS OF AFDC AND TITLE I PUPILS BY SCHOOL DISTRICTS, 1972

School District	*Title I Eligibles as % of Local School Enrollment (1)*	*School Age AFDC as % of State Enrollment (2)*	*(1)/(2)*	*City Enrollment as % of State Enrollment*	*Local Title I as % of State AFDC*
NORTHEAST					
Boston	36.1%	10.8%	3.34	8.1%	28.0%
Buffalo	31.4	16.1	1.95	2.0	3.6
Pittsburgh	48.9	12.1	4.04	2.8	13.4
MIDWEST					
Chicago	55.6	13.2	4.21	25.1	91.1
Detroit	32.7	11.0	2.97	12.9	55.5
Minneapolis	16.8	5.8	2.90	7.0	17.7
St. Louis	29.8	8.4	3.55	9.9	33.6
Cleveland	43.1	6.5	6.63	6.3	36.8
Milwaukee	37.2	5.8	7.27	12.8	80.0
SOUTH					
Atlanta	7.3	11.0	.66	8.9	6.2
Houston	25.7	5.2	4.94	8.4	40.2
WEST					
Los Angeles	34.6	13.0	2.66	12.6	32.6
San Diego	9.5	13.0	.73	2.6	1.8
San Francisco	32.3	13.0	2.48	16.4	3.9
Oakland	18.2	13.0	2.94	1.2	3.4
Denver	16.4	7.5	2.19	16.0	34.9
Portland	52.7	7.8	6.76	15.5	89.8

Source: Author's survey of pupil enrollments in member cities of the Great Cities School Council, 1972. U.S. Department of Health, Education and Welfare, *Public Assistance Statistics of 1972* (SRS 73-03100), Table 7.

TABLE 15

CITY FISCAL AND TEACHER REQUIREMENTS ARISING FROM NEFP WEIGHTINGS 1972

City by Region	*Expediture Per Pupil* in 1972	*Expediture Per Pupil* NEFP Requirement
NORTHEAST		
Boston	$ 918	$1,271
Buffalo	1,293	1,917
MIDWEST		
Chicago	1,024	1,789
Detroit	803	1,159
Minneapolis–St. Paul	1,085	1,576
St. Louis	689	1,017
Cleveland	744	1,158
Milwaukee	962	1,420
SOUTH		
Atlanta	856	1,057
Houston	685	973
WEST		
Los Angeles–Long Beach	1,078	1,719
San Diego	813	1,047
San Francisco–Oakland	1,388	2,163
Denver	1,143	1,543
Portland	852	1,500

TABLE 16

CITY PROPERTY VALUES WEIGHTED AND UNWEIGHTED FOR EDUCATIONAL NEED

City by Region	*Per Pupil Property Value in 1972* Unweighted	*Per Pupil Property Value in 1972* Weighted for Education Need on NEFP Basis
NORTHEAST		
Baltimore	$ 20,794	$15,024
Buffalo	27,305	18,417
MIDWEST		
Chicago	52,490	30,046
Detroit	40,063	27,757
Minneapolis–St. Paul	57,010	39,249
St. Louis	44,203	30,338
Cleveland	60,260	38,728
SOUTH		
Atlanta	47,612	38,558
Houston	38,120	26,837
WEST		
Los Angeles–Long Beach	60,096	37,686
San Diego	50,000	38,826
San Francisco–Oakland	112,630	72,275
Denver	50,780	37,616
Portland	44,770	30,120

Part of the answer seems to be in the realm of classification. We need to know which school districts are really poor, which ones are overly taxed, which ones have concentrations of educational need, and which ones are paying high prices for their factor inputs. This information, if comprehensive enough, not only would provide a realistic picture of the fiscal environment, but also, and more important, might provide vital clues for developing policies consistent with both fiscal justice and political expediency.

In the time being, however, we believe that those concerned with fair school finance—

1. should continually emphasize the need, cost, capacity, and effort differentials that cities face, differentials which make them deserving of additional external assistance.
2. should press for a pupil weighting system that reflects the differential educational needs in large cities. Weights along the order of those developed by the National Educational Finance Project or other more empirically testable weights should be developed. Consideration should also be given to graduating weights for a given type of pupil when they reach high concentrations in a school district.
3. should insist on aid for the differential costs of urban education. Generally, cost correction factors might have two components, one reflecting the differential a city district pays for providing a service and the second recognizing the higher costs cities must pay for educational inputs not always required by other school districts.
4. should give prime consideration to developing a fiscal capacity measure which is income, rather than property based in nature and which uses total population rather than school enrollment as the unit by which to measure wealth.
5. should take into account the problem of municipal overburden. Cities invariably have higher total tax burdens than most other types of school districts. Consequently, they are burdened by aid programs which make the implicit or explicit judgement that cities are "free" to choose a level of tax effort that will be sufficient to meet their educational requirements. Municipal overburden corrections, taking into account the higher tax effort in cities, should be a basic component of a revised aid formula.
6. should give attention to the form of school finance revisions as well as their initial fiscal impact on city school finances. Full State funding programs, in particular, should be scrutinized insofar as they have a "leveling" effect on urban school finances. Power equalizing schemes should be examined to see that they do not demand extraordinarily high tax effort in large urban centers. And all school finance revisions should be studied as to their tax-expenditure impacts on urban areas. Cities should be especially careful of not ending up paying the major share of school finance revision programs.

APPENDIX

The simulated state aid and tax rate data in Table 1 were calculated as follows. State aids were determined for each school district by multiplying the average per pupil state aid in 1971-72 by the local to state school tax effort ratio for the same fiscal year. Tax rates were determined for each school district by subtracting the simulated state aid from 1971-72 state-local revenue, then by dividing the remainder by the local tax base, and, finally, by multiplying that product by the local to state per pupil tax base ratio.

To be sure, this procedure does not correspond perfectly with district power equalizing in its pure form. This is unavoidable, however, unless one makes assumptions about guaranteed revenue schedules, that is, the number of dollars that states will provide school districts for each level of tax effort. Although there is nothing inherently wrong about making such assumptions, stating them raises very difficult questions, especially in the area of interactance between guaranteed revenue yields and potential changes from present levels of tax effort.

FOOTNOTES

1. *Serrano v. Priest*, 5 Cal. 3d 584, 96 *Cal. Rptr.* 601, 487 P. 2d 1241 (Sup. Ct. 1971). Also, *Milliken v. Green*, ___ Mich. ___, 203 *N.W.* 2d 457 (Sup. Ct. 1972). And, *Robinson v Cahill*, ___ *N.J.* ___ (Sup. Ct. 1973).

2. See, for example, Education Commission of the States, *Newsletter*, selected dates.

3. *Ibid.*

4. The Urban Institute, *Public School Finance: Present Disparities and Fiscal Alternatives* (Washington, 1972).

5. Betsy Levin and Thomas Muller, *The Financing of Schools in Minnesota* (Washington, 1973). William H. Wilken, *Minnesota School Finance: The Need for Continued Reform* (Washington, D.C.: National Education Association, 1973).

6. Joel S. Berke and John J. Callahan, "Serrano v. Priest: Milestone or Millstone," *Journal of Public Law*, 21 (Summer, 1972), pp. 23-71.

7. National Legislative Conference, *A Legislator's Handbook to School Finance* (Denver: Education Commission of the States, 1972).

8. John Coons, William Clune and Stephen Sugarman, *Private Wealth and Public Education* (Cambridge, Mass.: Belknap Press, 1970), pp. 201-242.

9. *Ibid.*, p. 242.

Alternative Tax Sources for Education: Perspectives and Prospects

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The topic under review today could be retitled "Financing Education Ten Years From Now—What Will It Look Like?" It would be equally interesting to put the topic in historical perspectives and reflect upon what was said on the same topic ten or even twenty years ago. A comparison could be made of the policies and predictions that were set forth then with the situation today. And although the historical data have not been thoroughly researched, some brief comments about school finance in the early 1970's compared with the early 1960's and 1950's provide useful insights and a backdrop for a look into the future.

First, the basic character of educational finance appears to change slowly over time. The finance specialist who took a ten or even twenty-year sabbatical leave would not experience much of a handicap in understanding the present system and in reacquainting himself with its major strengths and weaknesses. In the early '50's, revenues from local sources provided approximately 60 per cent of total Federal, State and local expenditures for elementary and secondary education. By the middle '60's, this proportion had been reduced to just over 50 per cent, which is about the current level.

Second, despite the fairly stable relationship of support for education by governmental level, the data show a substantial increase in dollar aggregate school outlays. Between 1957 and 1970, annual spending for education jumped from $12 billion to over $37 billion, and now exceeds $40 billion. No small part of this expansion was due to

TABLE 1

STATE AND LOCAL EXPENDITURE FOR ELEMENTARY AND SECONDARY EDUCATION, BY GOVERNMENTAL SOURCE OF FINANCING, SELECTED YEARS 1957-1970

Fiscal Year	*Amount (in millions)*	*Percent Financed From*		
		Federal Aid	*State funds*	*Local funds*
1970	$37.461	10.1	38.8	51.1
1969	35,687	8.6	40.8	50.6
1967	23,986	10.2	38.6	51.2
1957	11,994	3.1	36.7	60.3

Source: Governments Division, U.S. Bureau of the Census.

population growth and price increases, but there is ample evidence to support the contention that qualitative and quantitative improvement explain the largest share of the dollar increase.

Statistical relationships of this kind illustrate the extent to which the growth in educational expenditures has taken place within the framework of a system of fiscal federalism in which education remains primarily a State and more importantly a local government responsibility. And though there have been notable swings in the role of the Federal government (e.g., the 1965 Elementary and Secondary Education Act), the record suggests that, for the most part, the Federal contribution has not kept pace with the growth in school costs.

Third, the share of school costs financed locally declined over the decade of the '50's and '60's, but has stabilized since. What has not remained static, however, has been the school system's increasing reliance on the local property tax. In 1952, school districts required a little over one-third of the then $8.2 billion local property tax yield to finance their 60 per cent share of school costs. By 1970, the schools accounted for one-half of the $33 billion local property tax bill to fund roughly 50 per cent of total school expenditures. In a word, it was and is virtually impossible to separate school finance from the local property tax. Further, because most local government units are fishing in the same property tax pond, it is obvious even to the most casual observer that an increase in the property tax levy of one unit makes it increasingly difficult for another, serving the same area, to meet its needs from this source.

And fourth, the most striking feature in school finance over the period under discussion has been the revenue-generating performance of the property tax. This is all the more surprising because few taxes have so little to recommend it and so much to condemn it. As late as 1956, one among many critics of the property tax forecast that in twenty years, "the property tax will . . . have become an all-but-forgotten relic of an earlier fiscal age. . . ."[1] Somewhere along the line, new life was breathed into the property tax and rather than disappearing or withering away as some had prophesied, it has continued to outperform and overshadow other sources of State-local revenues.

TABLE 2

SCHOOL SHARE OF LOCAL PROPERTY TAXES, SELECTED YEARS 1952-1970

		Percent distribution by type of government			
Fiscal Year	*Local property taxes (millions)*	*School districts*	*Cities*	*Counties*	*Townships and special districts*
1970	$32,963	50.3	23.7	18.1	7.9
1969	29,692	50.0	24.1	18.1	7.8
1967	25,418	48.9	24.8	18.5	7.8
1957	12,285	42.8	29.7	19.2	8.3
1952	8,232	39.2	32.7	19.8	8.3

Source: Computations based on data from Governments Division, U.S. Bureau of the Census.

Attitudes toward the property tax have apparently not changed much. The ramparts defending the property tax are still not crowded. In a recent poll conducted for the Advisory Commission on Intergovernmental Relations, respondents picked the property tax more often than any other tax as the worst tax.[2] When asked what would be the best way to raise additional State revenue, respondents placed the property tax at the bottom of the list. There seems little doubt that given the choice, the majority of taxpayers would prefer sales and income taxes to further increases in the property levy. Despite taxpayer preferences, at least one source projects property tax yields of $50 billion by 1975 and $70 billion by 1980, the latter would constitute over a 119 per cent increase above 1970 levels.[3]

With these few retrospective comments, what can we say about how the system of educational finance will look ten years in the future? Is the past really prologue? Will the process of change be as slow as in the past or will there be a change of pace of fiscal developments that will drastically alter the tax base for educational expenditures? While prophesy is not my particular expertise, there are some significant current trends that seem likely to extend into the future. In addition, some possible new developments may change the tax landscape.

ALTERNATIVE TAX SOURCES

It is not the primary purpose of this discussion to examine the local property tax; the question of alternative tax sources for financing education cannot, however, be meaningfully explored if it is ignored. As all are now aware, in rejecting by one vote last month the challenge to the system of financing public schools in Texas, the U.S. Supreme Court also gave respite to the forty-eight other States under pressure to reform school financing. If a single Justice had shifted his vote, the system of school finance as presently constituted would have been drastically altered. Most important would have been the changed role of the local property tax. Clearly if the Court had gone the other way, the locally determined property tax could no longer be relied upon to provide the majority of support of a school district's expenditures. What then would have been the alternative approaches to a full-fledged restructuring of educational finance? It is the position here that the Court's decision constitutes a postponement, not a defeat for financial revision. Changes in educational finance may not be as abrupt or rapid perhaps as they would otherwise have been, but they will come. The question is not whether revision will take place, but how long will the process take.

In this context, the Advisory Commission on Intergovernmental Relations prophetically stated in a January, 1973 release.[4]

> "Even if the Supreme Court overturns the Rodriguez decision, *Serrano*-type litigation has so dramatized the existence of intrastate school finance disparities that State political leaders will hereafter be under constant pressure to improve the State's distribution of school funds. If the Supreme Court sustains Rodriguez, this act will spur corrective State action."

The Commission concluded ". . . that the interests of our federal system are best served when States retain primary responsibility for shaping policies dealing with general property tax relief and intrastate equalization of school finances—two areas that traditionally have been within the exclusive domain of State policy-makers."[5]

Increasing emphasis on State government solutions to the problems of educational finance is also clear in two recent major federally financed studies: the National Educational Finance Project and the President's Commission on School Finance. Both studies concluded that the State should assume full funding of elementary and secondary education, though the suggested procedures for accomplishing this objective were somewhat different. Thus, with the same forces and pressures at work to revitalize educational finance, with or without a Court decision there is a finite number of options available. The different options (not mutually exclusive), however, have different subjective probabilities attached to them in terms of actual realization and implementation.

The first alternative approach to major reliance on the local property tax would allow local governments to impose local sales and/or income taxes. Local financing of education would remain essentially unchanged, as would local control of educational policy. The realities of intrastate disparities in tax bases (e.g., "bedroom" communities versus shopping centers), however, suggest that this option would have limited adaptability and acceptability. This policy option is not rated high on the scale of fiscal neutrality. Nor is it attuned to current developments, though at last count, some twenty-five States permitted local governments to tax retail sales and nine States extended local taxing power to income.[6] These taxes were generally of the "piggyback" variety, where the local rate is added to an existing State levy.

School districts in only two of these States—Louisiana and Pennsylvania—shared in these local nonproperty tax options.

All States presently provide financial assistance to local school districts. A second approach to structural change in the educational financial system would retain the local property tax in its present role but modify the basis for determining the distribution of State aid. This is essentially a "zero-sum" game, where a fixed number of dollars is simply reordered among school districts. Some districts would get more aid, but only at the expense of others. Unfortunately, this alternative has some political appeal for it amounts to a type of ceiling on the local property tax and no tax increases at the State level. Here again, however, the policy is out of step with current political and economic realities. The redistribution of fiscal resources among governmental units is never a simple task, particularly where it involves changes in what has become accepted policy. Further, the present structure of most State tax systems has insufficient built-in growth (i.e., elasticity) to assure even constant quality levels of educational expenditures.[7]

A third type of fiscal system is presently under consideration in several States whereby a uniform Statewide property tax for local schools would be combined with modifications in the allocation of State aid to education. Presumably the State takeover of the administration of the property tax would serve to rehabilitate and rejuvenate the levy to make it a more effective and equitable revenue instrument for funding a portion of local school costs. Primary emphasis here would be on improvements in property assessments and taxing procedures among taxing units and types of property. Any efforts along these lines should be applauded and encouraged, and school financing has a big stake in the upgrading of the organizational base of property tax administration.

There are currently some 14,500 primary property assessing areas in the U.S.; Illinois, Indiana, Michigan, North Dakota and Wisconsin each has over 1,000 units. Thirty States require no training or certification of local tax assessors either before or after they take office. Twenty-one States do not even require the use of tax maps for assessment purposes. It is not surprising that the present local property tax is chaotic and unjust; what is surprising is that the situation has persisted for so long. Fortunately, the current is now running strongly in favor of professionalization and centralization of property tax administration, with the utilization of modern data processing equipment to achieve prompt, effective, and evenhanded property tax administration.

The fourth available option involves a reduction in the reliance on the local property tax as the primary source of school finance and the substitution of revenues derived from State tax sources, namely income and sales taxes. This policy option is consistent with the vocal demands for property tax relief, for more intrastate uniformity in school expenditures, and for shifting the major responsibility for financing education to the State. The key issues in this approach are the capability and willingness of the States to strengthen and balance their own tax structures as well as those of their local governments.

Do the States have untapped taxable capacity? The answer to this question is a qualified yes; qualified in the sense that there are alternative measures of tax effort and tax capacity. Applying the "least stringent" capacity test—the amount of potential revenue a State could raise if it made the same tax effort as the highest tax effort State in its region—in the aggregate an estimated $16 billion of untapped State tax revenue would be available.[8] This amount would be more than sufficient to cover the additional required outlay ($13 billion) for State financing of 90 per cent of public school costs; alternatively, this revenue would provide the necessary resources to raise per-pupil spending in all low spending school districts to the 90*th* pupil percentile, or approximately $7 billion.[9]

Applying the "most stringent" capacity test—the amount of potential revenue a State could raise if it made the same tax effort as the nation's highest tax effort State—generates some $35 billion of untapped tax capacity.[10] What all this suggests insofar as the overall capability of the States to fund property tax replacement *and* additional school expenditures is obvious.

Even the State tax bases or sources in the great majority of cases are known. Thirty-five States now have broad-based income and sales taxes. The States are clearly moving toward more balanced tax structures utilizing property, sales and income as tax bases, but more needs to be done to equalize further the relative contributions of the three tax bases. State personal income taxes are still providing only about 11 per cent of the total yield of State-local taxes, and general sales taxes, though somewhat higher, account for less than 20 per cent. In contrast, property tax collections are running about 40 per cent of total State-local tax receipts.

The frequency distribution of reliance on property taxation in State-local systems for the fifty States and the District of Columbia is the following:

Property tax as per cent of State-local tax collections	*No. of States*
Less than 20%	4
20-29.9	11
30-39.9	13
40-49.9	16
50-59.9	6
Over 60%	1

Impetus for more adoptions and more intensive use of existing personal income taxation might increase as a result of the 1972 Federal revenue sharing program. Not widely publicized is a provision of the program which permits States to "piggyback" on federal personal income tax collections. Such a collection program could become effective as early as 1974. The legislation requires that at least two States accounting for at least 5 per cent of the taxpayers in the U.S. must request Federal collection of their income taxes for piggybacking to begin. If the 5 per cent requirement is not met by January 1, 1974, its introduction will be delayed year to year until the requirement is satisfied. In addition to the savings in administrative and enforcement costs to State governments, piggybacking should simplify taxpayer compliance. If greater reliance is placed on income taxation, the objectives of both equity and revenue adequacy (i.e., the automatic responsiveness of tax collections to economic growth) will be served.

Not to be overlooked is the apparent preference of taxpayers for sales taxes. In the poll earlier referred to, when asked: "If your State government must raise taxes substantially, which would be the best way to do it: State income tax, State sales tax, or State property tax?" The answers to the question were as follows:

State income tax	25 per cent
States sales tax	46 per cent
State property tax	14 per cent
Other	5 per cent
Don't know	10 per cent

To summarize to this point, there will probably be significant shifting in current State-local tax relationships, particularly away from the local property tax. Experience in both the economics and the politics of providing property tax relief and replacement is gaining, though the politics often intrudes on the economics. Thus, for example, the political attitudes surrounding the necessity and feasibility of providing general, across-the-board property relief are receding, and in their place are more realistic approaches to providing relief to specific groups (re: the so-called "circuit breaker" system for protecting low income households from property tax overloads). Equipped with more productive and diversified tax systems, the States would be in a better position to provide the revenue required to adequately finance public schools.

BARRIERS TO CHANGE

The remarks above are suggestive of some developments that may occur in State-local tax systems and indirectly in school finance. Perhaps a few remarks are in order on some of the obstacles to their achievement.

Reference was earlier made to "untapped tax capacity." The central issue in the prospects for changing the structure of school financing is whether or not the States will in fact convert taxable capacity to actual tax collections. Currently, political antipathy to association with tax increases is widespread among State elected officials. The high mortality rate in candidates for re-election is commonly explained by their sponsorship of tax increase programs. Right or wrong, the allegation is making political leaders cautious of associating themselves with tax-raising policies. The problem is becoming particularly acute because of comparatively optimistic revenue projections and the widely publicized economy/no-tax-increase myopia in Washington. The country seems to have been massaged and mesmerized into believing that all tax changes—including reforms—are bad and that maintenance of the status quo is the best that can be hoped for.

These attitudes portend difficult times ahead unless the basic issues of tax policy and fiscal reforms are made understandable and are effectively communicated to policy-makers in the executive and legislative branches of State government and to the general public. This is by no means an easy task. The judicious selection of the basic issues in educational finance to be considered by governing bodies is important. Legislative battles over taxes are difficult and time consuming. Consequently, they should be constantly focused on substantive change within a framework of a long-range optimal plan. There is no substitute for careful and objective analysis, communication and planning.

This then is one observer's partial list of the more important influences which can be expected to shape the character of public school finance in the future. Notice, the role of the Federal government has gone virtually unmentioned. It is the position here that States and school districts cannot look to Washington for reform in educational financing for several reasons. First, its current importance, in dollar terms, is small, providing only about 8 per cent ($3.8 billion) of public school expenditures in the 1970-71 school year. Second, Federal revenue sharing seems to be providing the rationale for cutbacks in existing Federal grants. New York State has estimated its potential reductions at approximately $36 million.[11] Third, the President's 1974 budget proposes the replacement of some thirty existing categorical grant-in-aid programs into five broad categories—for the disadvantaged, for the handicapped, for vocational education, for support services ranging from library materials to school lunches, and for "impact" aid for districts with large numbers of Federal employees living on Federal property. It is intended to effect economies, to eliminate red tape, and to allow States and localities to determine spending pri-

TABLE 3

SCHOOL FINANCE DATA, 1970-1971 SCHOOL YEAR

	(Billions)	
Total expenditures for public schools		$45.5
Current expenditures	$39.6	
Capital outlay	4.6	
Interest on school debt	1.3	
Revenue receipts for public schools		44.5
Local governments	22.3	
State governments	17.6	
Federal government	3.8	
Intermediate sources	.9	
Local property tax collections[a]		42.0
School districts	23.0	
Other local governments	19.0	

orities. State and local funds previously required to match the categorical Federal grants will be freed for use at the discretion of State-local officials. In other words, Federal incentive programs will be minimized or eliminated and education will have to compete for the released dollars with other functions (e.g., police protection, transportation, etc.). This is what is referred to as the "new fiscal federalism."

Politicians are fond of quoting Chief Justice John Marshall's statement in the famous *McCullock vs. Maryland* case, ". . . that the power to tax involves the power to destroy . . .." Interestingly, they too often overlook his next few words: ". . . that the power to destroy may defeat and render useless the power to create." The real danger of outmoded and unbalanced local revenue structures for the support of education is that it inhibits the creativity of the government and suppresses the creative impulses of the citizens who support it. Such inhibition and suppression can profoundly affect the quality of life of society.

FOOTNOTES

1. George W. Mitchell, "Is This Where We Came In?" *Proceedings of the Forty-Ninth Annual Conference*, National Tax Association (1956), p. 494.
2. Advisory Commission on Intergovernmental Relations, *Public Opinion and Taxes*, Washington, D.C. (May, 1972).
3. Tax Foundation, Inc., *The Financial Outlook for State-Local Government to 1980: A Summary*, New York, 1973.
4. Advisory Commission on Intergovernmental Relations, *Financing Schools and Property Tax Relief—A State Responsibility*, Washington, D.C. (January, 1973). A-40, page 14.
5. *Ibid.*, p. 3.
6. Advisory Commission on Intergovernmental Relations, *State-Local Finances: Significant Features and Suggested Legislation*, 1972 Edition, M-74, pages 192, 194, 226, 229.
7. *Ibid.*, p. 49.
8. ACIR, *Financing Schools*, A-40, pp. 24-25.
9. *Ibid.*, p. 28, and *State-Local Finances, op. cit.*, p. 45.
10. *Financing Schools, op. cit.*, pp. 24-25.
11. *The New York Times*, Sunday, April 1, 1973, p. 39.

Approaches to Equitable Financing of Education in Canada: Federal Provincial Tax-Sharing and Provincial Financing

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As in other areas of activity, there are many similarities between the United States and Canada in the arrangements and mechanisms for financing education. For example, the foundation concept for state-local cost sharing has been widely adapted by Canadian provinces. Rather than concentrate on these or other aspects of our systems which may be quite familiar to you, this paper will deal with two features of our systems which have not been widely used in the United States, namely, tax-sharing with unconditional equalization at the federal-provincial level and an interesting experiment in centralized financing of education by the Province of New Brunswick.

Following a brief overview of the growth of educational spending in absolute and relative terms and of the rapid changes in sources of funds for education in Canada, it is proposed to examine the federal-provincial tax-sharing arrangements by means of which the provinces have been given access to fiscal resources sufficient to carry out their educational and other constitutional responsibilities. It is then proposed to discuss some aspects of our provincial-local arrangements for financing elementary and secondary education, with particular attention to the New Brunswick experience with centralized financing.

The British North America Act of 1867, the Canadian equivalent of the U.S. Constitution, gave each province the right and responsibility to develop and administer its own system of education. Thus, ten distinct provincial systems of elementary and secondary education have evolved. While there are some important differences among these systems, most of them have local school boards and use property taxes as a major source of funds.

EDUCATION IN CANADA'S NATIONAL ECONOMY

In common with most other Western countries educational spending in Canada has increased greatly in recent decades, particularly in the sixties. Between 1961 and 1971 total spending on Formal Education and Vocational Training in Canada increased from $1.9 billion to $8.0 billion for an average annual rate of 15.7 per cent. In relative terms, the growth of educational spending has also been quite remarkable, rising from 4.7 per cent of GNP in 1961 to 8.6 per cent in 1971.[1] In relation to Personal Income, the comparable percentages were 6.4 in 1961 and 10.9 per cent in 1971.

While a tremendous expansion in post-secondary education during the sixties contributed sharply to this growth in total costs, spending on elementary and secondary education also grew very rapidly, from $1.4 billion in 1961 to $5.0 billion in 1971 for an average annual growth rate of 13.5 per cent. In relation to national output, spending for elementary and secondary education increased from 3.6 per cent of GNP in 1961 to 5.4 per cent in 1971 and the comparable percentages in relation to Personal Income were 4.8 per cent in 1961 and 6.8 per cent in 1971.

The reasons for the above developments are familiar: more children staying longer in school and demanding wider educational choices.

The most notable structural change in Canada's arrangements for financing education in recent years has been the assumption by the provinces of a much larger share of local school spending:

Sources of Funds	*Publicly-Controlled Elementary & Secondary (1968)*	*Change 1958 to 1968*	*ALL FORMAL EDUCATION* (1968)*	*Change 1958 to 1968*
A. Local government taxation	39.8%	(−9.2)	25.3%	(−14.9)
B. Provincial and territorial governments	52.2	(+11.6)	54.6	(+12.3)
C. Federal government	5.2	(+0.7)	11.5	(+3.4)
D. Non-government (private)	2.8	(−3.1)	8.6	(−0.8)
TOTAL	100.0%	—	100.0%	—
$MILLIONS	3,595.5		5,663.9	

*Includes elementary and secondary, teacher-training, university and vocational education.

In the decade 1958 to 1968 the share of local taxation as a source of funds for total educational spending fell from 40 to 25 per cent while the provinces' share increased from 42 to nearly 55 per cent. This takeover of major financial responsibility by the provinces has been most pronounced at the elementary and secondary level where the share of local taxation fell from 49 to 40 per cent and the provincial share rose from 41 to 52 per cent.

Similar shifts have taken place at the post-secondary level but the shift has been from the provinces to the federal government. In 1960, the provinces contributed 41 per cent of the funds to post-secondary education in Canada, the federal government provided 22 per cent and the private sector (i.e., fees, endowments, etc.) made up the remaining 37 per cent. By 1969, the federal share had doubled to 44 per cent while the provincial share had declined to 32 per cent and the relative importance of the private sector had dropped to 24 per cent. Having documented the growth in our total financial commitment to education and the shift in the burden of financing from the municipalities to the provinces, it will be useful to examine the means by which the provinces were permitted to assume this additional burden, namely, tax-sharing or tax credits, as you may know them.

PROBLEMS OF FISCAL BALANCE AND EQUITY

It will be useful at this point to review some of the problems of post-war fiscal federalism in Canada which have had to be overcome. Those problems are endemic to federal states but have been more pronounced in Canada during the past two decades than at any other time.

Dynamic Imbalances Between Spending Responsibilities and Revenue Means

While spending responsibilities and revenue sources are usually roughly in balance for the senior governments when a federation is negotiated, it is unlikely that they will remain in balance over any substantial period of time. Social and economic conditions change and, with these changes, the priorities for desired public services also change. In addition, the relative importance of various sources of revenue wax and wane. These twin problems are not as serious in a unitary state where the central government can alter spending responsibilities and tax powers at will, as they are in a federal state where the original division of powers and responsibilities was the political compromise which made nationhood possible and is usually firmly entrenched in a written constitution.

Aggregate imbalances between spending responsibilities and revenue-raising powers have been particularly apparent in Canada in recent decades. Most peacetime priorities have arisen in the social service field which, in Canada, is the domain of the provinces. The expansion of education has already been documented and there have been similar expansions in health and welfare.

In an attempt to keep pace with the exploding demands for services in their domain, provincial and local governments raised the rates and enlarged the bases of old taxes and, at the provincial level, new taxes were added, chiefly general sales taxes. Despite these measures, the pressure to enlarge spending exceeded the ability of the provinces and their localities to increase tax yields from their own sources.

The principal reason for the failure of provincial and local revenue sources to keep pace with their spending needs is that the yields of the taxes on which they rely do not respond well to normal growth in the economy. This fact is illustrated by comparing revenue elasticities of the major taxes in Canada with respect to Gross National Expenditure over the period 1933 to 1965. The revenue elasticity of wealth taxes, primarily the real property tax on which municipalities rely, was 0.87 while that of consumption taxes, on which the provinces have traditionally depended most heavily was 1.12. The revenue elasticity of income taxes, exploited mainly by the federal government was 1.66. The higher revenue elasticity of income taxes is explained by progressive rate structures and rising income distribution profiles.

Interprovincial Differences in Levels of Real Income

The second major problem in our federal financial arrangements arises because of differences in levels of real income among provinces and, it must be added, among localities within provinces. Jurisdictions with relatively low levels of real income must levy heavier tax burdens on their citizens to provide similar standards of public services provided in wealthier communities. To the extent that prevailing ideas of social justice (or political expediency) require alleviation of this situation, a redistribution of tax revenues is required.

In the past two decades there has developed in Canada a very strong sentiment favouring government intervention to reduce the gap between "haves" and "have nots," whether it involves adjustments in the economic well-being of individuals or the fiscal capacities of provincial governments to provide comparable standards of social services.

FEDERAL-PROVINCIAL FISCAL ARRANGEMENTS

The Canadian approach to solving the problems of aggregate imbalances between spending needs and revenue sources and to offsetting inter-provincial disparities in standards of social services has evolved from the historical circumstances out of which the federation emerged and from subsequent events. The modern history of Canadian intergovernmental fiscal relations began in 1940 with the reporting of the

Royal Commission on Dominion-Provincial Relations (Rowell-Sirois Commission). The Commission had been appointed to examine the hopeless jumble of income and consumption taxes which had grown up in most of the provinces and to recommend rationalization of federal-provincial finances. Despite the rejection of the Rowell-Sirois report at the time, the debate and controversy surrounding its recommendations created an atmosphere in which all parties were more receptive to change than might otherwise have been the case. In fact, the system of federal-provincial fiscal arrangements which has evolved over the past 30 years is similar in many respects to that recommended by the Rowell-Sirois Commission.

Tax Rental (1942-1962)

Early in World War II, the federal government was able to persuade the provinces to relinquish their own personal and corporation income tax fields in return for unconditional "rental" payments. Possession of undisputed control of the income tax permitted the federal government to pursue the war effort to the fullest extent. Rental agreements, first made in 1942, were renegotiated every five years and eventually covered the period 1942 to 1962 using rental formulas which became progressively more generous from period to period.

Tax rental requires that a provincial or state government refrain from exploiting a tax source to which it has legal access, in return for a negotiated percentage of the collections made within its region by a higher level of government. The advantages of tax rental for such levies as income taxes are that they (1) help facilitate equitable treatment of individual taxpayers among provinces, and (2) permit a central government to pursue economic policies with less likelihood of having them neutralized by the provinces. The proceeds of tax rentals are, of course, derivation transfers in that, in the absence of equalization or stabilization clauses, they are proportional to the revenue derived from the recipient's own jurisdiction.

The rental system worked well for Canada during the wartime and in the early post-war years, providing the federal government with a strong revenue base, establishing a standard income tax structure across the country and guaranteeing the provinces certain basic revenues at fairly low political risk. However, tax rental had some serious disadvantages. First the provinces who sign rental agreements forfeit a degree of autonomy in that they are not free to vary the tax rate. Since the productivity of provincial consumption taxes is low and their incidence slightly regressive, there is little a province can do to increase revenues significantly during the course of an agreement. Second, tax rentals violate the principle of fiscal responsibility in that the political pain of raising the funds does not fall on the same level of government which has the political pleasure of spending them. Finally, a tax rental system penalizes any province which prefers not to refrain from imposing its own income or succession taxes. In Canada, Quebec refused to participate on grounds that the concept of tax rental was incompatible with its constitutional rights.

Tax-Sharing (1962-1972)

The disadvantages of tax rental led to their replacement in 1962 by a form of tax-sharing arrangement. After negotiating a mutually acceptable tax base, parties to a tax-sharing deal are free to vary the rates as they choose, thus overcoming some of the major disadvantages of tax rental. Under the 1962-67 agreement as it applied to personal income tax, the federal government imposed a national "basic tax" which it then reduced or abated by a negotiated percentage in order to "make room" for the provincial taxes.

For the first time in 1962 the federal government and the provinces also entered into formal tax collection agreements under which the federal government agreed to collect, free of charge, provincial personal and corporate income taxes without any limit on the amount collected. Thus, the provinces were free to tax at rates beyond the federal abatement, the only condition being that the provincial and federal tax bases had to be identical. All provinces except Quebec chose to have their personal income taxes collected by Ottawa. In addition, Ottawa collected corporation income taxes for all provinces except Ontario and Quebec.

Throughout the series of tax rental and tax-sharing agreements there has been an incessant struggle by the provinces to increase their share of the tax pie and the federal government has, in fact, given up more and more of the federal "basic tax" to the provinces. The following are the basic percentages by which the federal government withdrew from the personal income tax field:

1957 Arrangements (tax rental)

1957 to 1961	13

1962 Arrangements (tax-sharing)

1962	16
1963	17
1964	18
1965	22
1966	24

1967 Arrangements (tax-sharing)

1967 to 1971	28

The additional four percentage points of personal income tax abated to the provinces in 1967, together with one percentage point of corporate income tax (not shown above), were granted to the provinces for post-secondary education and will be discussed more fully further on.

The successive abatements of federal tax collections throughout the sixties was the major factor enabling the provinces to increase their share of educational costs, documented earlier. The remarkable aspect of this period in Canadian federal-provincial fiscal relations is that the provinces have been able to meet the exploding demand for social services in their domain, including education, without increasing the income tax burden on their taxpayers. In fact, except in those provinces which taxed beyond the federal abatements, the income tax burden remained almost constant from 1961 until 1971.

By means of federal-provincial negotiations, it has been possible to shift effective taxing power from the federal to the provincial level in recognition of urgent provincial priorities in the social service fields. Thus, it has been possible, with a minimum of disruption to the tax structure, to strike a new balance between expenditure needs and revenue sources at each level of government.

Revenue Equalization Grants

As early as 1957, the federal government began to make unconditional tax revenue equalization payments to the provinces with the objective of better enabling all provinces to provide comparable levels of services with comparable levels of taxation. The 1957 agreement provided for equalization payments to bring the per capita yield of the three "standard" taxes (i.e., personal income, corporate income and succession duties) up to the weighted average yield from these taxes levied at "standard" rates in Ontario and British Columbia, the two provinces with the highest per capita yields. Payments were made to all provinces, including Quebec, even though it did not participate in the rental agreements. In 1962, a measure of natural resources revenue was introduced into the equalization formula but the level to which revenues were being equalized was reduced from the average of the top two provinces to the national average. One year later, however, and for the balance of the 1962-67 Agreement, the formula was changed back to the "top two" basis but with a deduction for provinces with above-average per capita yields from natural resources.

A major change in the equalization formula took place in 1967 when the tax base used to determine entitlement to equalization was broadened to include virtually all sources of provincial revenue instead of the four revenue sources used in the previous agreement. The formula attempts to measure the amount by which each province's revenues, as calculated using a "representative tax system" fall short of the national average because of weak revenue sources. These equalization payments ensure that each province can receive revenue equal to the national per capita average regardless of the deficiencies in its own revenue sources and without subjecting its taxpayers to above average tax rates.

In 1972, the federal government distributed approximately $1 billion in unconditional equalization transfers under the Federal-Provincial Fiscal Arrangements Act. The following are the percentages of 1972 gross general revenue made up of unconditional equalizing grants under this program:

Newfoundland	26.2%
Prince Edward Island	20.7
Nova Scotia	17.7
New Brunswick	21.1
Quebec	9.2
Manitoba	8.0
Saskatchewan	16.8
7 Provinces	12.3%

In the Federal Budget brought down on February 19, 1973, the Government announced that the revenue equalization formula would be expanded, effective April 1, to include local taxes. The net effect of this measure will be to transfer substantial extra funds each year to the above provinces. The transfer will amount to about 28 per cent of the local school taxes collected in these provinces and will increase total equalization payment by $190 million to $1.4 billion in 1973-74. The Minister of Finance indicated that he expected to see the provinces affected pass on substantial benefits from these extra funds to their local property ratepayers.

Conditional Grants in Health and Welfare

What have just been described are the major features of federal-provincial arrangements for ensuring the provinces a high degree of fiscal balance and equity. In addition to the program of tax abatements described previously, the federal government makes use of another mechanism to promote fiscal balance, namely, conditional grants in the fields of health and welfare. These programs are worthy of note in this paper because the policies which have been adopted with regard to these programs are indicative of the philosophy of the Canadian Government toward involvement in the provincial domain.

By conditional grants, I mean cost-sharing schemes under which the federal government pays approximately 50 per cent of the cost of provincially administered programs, not categorical grants which can only be used for specific purposes. The provinces retain a wide latitude in undertaking programs eligible for federal cost-sharing.

These programs have been designed primarily for stimulation and tax relief rather than equalization, although there is an implicit element of equalization in the distribution formulas which usually results in the federal share being larger in the less affluent provinces. There has been no attempt in Canada to build a "fiscal need" component into our conditional grants at the federal-provincial level as has been done in the United States with many of the categorical grants in health, education and welfare. Serious efforts at equalization are made through provincial revenue equalization grants.

The conditional shared-costs grants are for three programs in health and welfare: The Canada Assistance Plan, Hospital Insurance and the Medical Care Program. These programs were established by the federal government to ensure that all provinces could meet certain basic standards of health and welfare service.

The federal government now regards these three programs as "well established" in the sense that they are felt to have sufficient popular support in all provinces to ensure their continuation without direct federal involvement. Accordingly, Ottawa has proposed to withdraw from these programs by eliminating the conditions which have applied to the federal contribution and substituting a fiscal equivalent in the form of tax points.

The federal government made its first "opting-out" proposal in 1964, renewed and altered it in 1966 and 1968 and then withdrew it altogether in 1969 pending major tax reform. These details are of no great interest here. The essential point is that, once a program in a social service field has been initiated and become "well established" the Canadian Government has adopted the philosophy that it is better to terminate direct financial assistance in exchange for tax points.

Post-Secondary Education Fiscal Transfer

In 1967 the federal government introduced an unusual type of transfer to assist the provinces in financing post-secondary education. This program was in partial replacement for a per capita grant to universities which was being phased out. The Post-Secondary Education Fiscal Transfer is unusual in that it is unconditional and conditional at the same time.

The unconditional feature of this program consists of the abatement of four equalized points of personal income tax and one equalized point of the corporation income tax base noted earlier in the description of general tax abatements. If necessary, the tax abatement revenue is augmented to bring the total transfer up to 50 per cent of the operating costs of post-secondary institutions or to an amount equal to $15 per capita of the provincial population in 1967, whichever the province in question prefers. Newfoundland, Prince Edward Island and New Brunswick have chosen the latter option. Total federal transfers to the provinces under this program increased from $422 million to $870 million between 1967 and 1971 absorbing a substantial share of the increased costs of post-secondary education in the late sixties. When the 1972-77 fiscal arrangements were negotiated with the provinces the federal government only agreed to continue this program for two additional years and placed a limit of 15 per cent per annum on the growth of payments for the final two years. Studies concerning the federal role in financing post-secondary education are in progress at this time.

PROVINCIAL-LOCAL SCHOOL SUPPORT PLANS

As noted at the outset, this paper will give major attention in considering provincial-local financing of education to the New Brunswick experience with centralized financing. Before doing this, however, it is necessary to provide an overview of the kinds of programs employed in the other provinces.

It is useful to begin by examining the sources of school board revenue by province for a recent year (1968). In both Newfoundland and

SOURCES OF SCHOOL BOARD REVENUE, 10 PROVINCES
1968

Province	*Provincial Grants*	*Local*	*Other*	*Total*
	Percentage Distribution			*$MILLIONS*
Newfoundland	90.0	2.0	8.0	41.5
Prince Edward Island	70.0	28.7	1.3	11.9
Nova Scotia	53.9	45.0	1.1	82.1
New Brunswick	99.7	—	0.3	55.3
Quebec	57.1	41.3	1.6	913.5
Ontario	46.0	51.0	3.0	1242.3
Manitoba	77.0	20.5	2.5	131.0
Saskatchewan	43.0	53.6	3.4	137.2
Alberta	50.8	45.5	3.7	262.8
British Columbia	41.0	56.3	2.7	284.5
All Provinces	52.1	45.3	2.6	3162.1

New Brunswick the provincial government pays virtually the total costs of education.

Among the other eight provinces the provincial share varies from 70 per cent to 41 per cent. Only in Ontario, Saskatchewan and British Columbia does local government contribute more than half of school board revenue.

Several Canadian provinces use variations of the foundation program concept for allocating provincial funds to local school boards. Alberta and British Columbia have variations of the Mort Plan in that they define the minimum program in terms of a weighted teacher or classroom. Saskatchewan, Manitoba and Quebec all have plans which use features of the Maryland Plan. Ontario which, until recent years, had a form of the Mort Plan has now adopted a variable percentage scheme but retained some features of its former plan. In the last two or three years several of the provinces have introduced some type of budgetary controls curbing local initiative in exceeding the foundation program.

New Brunswick, one of our Atlantic Provinces, covers 28,000 square miles, similar in physical characteristics and resource endowment to Maine. It has a predominantly rural population of about 640,000, 60 per cent English-speaking and 40 per cent French-speaking and a per capita personal income substantially below the national average. Until 1967 the Province had over 400 school districts, many containing one-room schools and each child's educational opportunities depended essentially on the vagaries of property tax geography.

In the early 1960's the Government of New Brunswick set up the Royal Commission on Finance and Municipal Taxation to study all aspects of provincial-local finances and functional assignments. The result, beginning in 1967 was a complete reorganization of provincial-local relationships and finances including assumption by the Province of full responsibility for financing elementary and secondary education, and the financing and provision of health, welfare and justice. To accomplish these purposes there was a complete restructuring of the provincial-local tax system including the elimination of outmoded taxes such as the personal property and poll taxes and the levying of a uniform province-wide real estate tax at an effective rate of 1.5 per cent of market value, to be determined by provincial assessors. In addition the Province took over the billing and collection of all property taxes.

The existing school districts were consolidated into 33 districts organized in seven regions each having a regional superintendent whose role it is to provide leadership in those districts which required upgrading and, in all cases, to provide contact and liaison between the districts and the Department of Education.

The responsibility for the administration of education in each of the 33 districts is delegated to a board of school trustees. These boards have either nine or fifteen members, six or nine of which, respectively, are elected while the remainder are appointed by the Lieutenant-Governor-in-Council.

Funds for operating and capital expenditure are distributed to the school districts on a budgetary basis by the Department of Education and each board of trustees is responsible for administering the finances of its district. Budgets are submitted by each district to the Minister not later than November 15 each year. Overall budgetary policy is discussed at a conference of Departmental, Regional and District personnel in December and this is followed by individual discussions between departmental and district officials at which realistic operating budgets are established. The budgets of all school districts are then submitted to Treasury Board as part of the Department of Education budget. The districts are usually advised in April of the actual budget allotments which are finally approved by the provincial Legislature and distribution to the districts begins on a monthly basis in July. Beginning in 1970, the Province initiated a centralized payrolling system for issuing bi-monthly salary cheques to approximately 8,000 teachers and 2,000 non-teaching employees.

Centralization of financing in New Brunswick has undoubtedly advanced the goal of equalization of educational opportunity in a way that no provincial-local cost-sharing arrangement seems capable of doing, at least not in Canada. Since there are no more than slight variations in costs per child between school districts, there has undoubtedly been a considerable reduction in the wide discrepancies in resources available for each child's education across the Province. To this extent, the goal of more equal provision of educational services seems to have been advanced. At the same time, local decision-making in important policy areas such as the hiring of teachers has been retained, albeit after a sweeping consolidation of local school boards.

The process of equalization has been a painful and costly one for New Brunswick. In order to improve the educational and other programs of those in areas poorly served in the past, it has been necessary to raise taxes. Moreover, people in the larger and more affluent, mainly English-speaking areas of the Province have had to "mark time" during the "evening-up" process and this has made them unhappy. Although the ambitious program he fathered goes on, Louis Robichaud's Liberal Government was defeated at the polls in November 1970.

Early in this paper two problems of fiscal federalism were identified which, if not solved or alleviated, have serious consequences for the financing of education, in particular. The first is dynamic imbalances between spending responsibilities and revenue sources at the federal-provincial level. The pattern of arrangements which has evolved in Canada for meeting this problem has consisted of tax-sharing agreements under which both the federal government and the provinces exploit the lucrative income tax to which they have joint constitutional access. By successive reductions in its own taxes throughout the sixties, thereby giving the provinces more "tax room," the federal government implicitly recognized that provincial priorities in education, health and welfare should have precedence over federal priorities.

Where the federal government has identified *national* priorities in the social service field it has assumed a form of flexible leadership by using loosely defined conditional cost-sharing grants until the programs are established and then relinquishing control over these fields to the provinces. In this way, provincial needs and aspirations have been better accommodated and the principle of "fiscal responsibility" better served.

The second major problem of fiscal-federalism affecting the financing of education consists of intergovernmental differences in fiscal capacity necessitating redistribution. By means of the federal-provincial revenue equalization program, each province can, without subjecting its taxpayers to above average tax rates, receive revenue equal to the national average regardless of its own revenue sources.

It would be less than honest to suggest that these reasonably effective and simple solutions to the problems of fiscal balance and equity came about by either design or by generosity on the part of the federal government. In fact, the Province of Quebec has held out incessantly against most federal-provincial fiscal arrangements viewing them as infringements on her constitutional rights. In recent years, some of the other provinces have been almost as insistent in their demands for fiscal decentralization. In short, the major factor in determining the pattern of intergovernmental fiscal relations in Canada has been the desire to preserve our national unity.

Despite numerous transitional problems, it appears at this time that the New Brunswick program of provincial financing of education has resulted in more equal provision of educational services among the children of the Province, while at the same time preserving a significant amount of local decision-making. Many of the problems encountered in New Brunswick stem from the fact that the scheme was not phased in gradually and from the persistence of divisions among the population which are centuries old.

The measures to achieve better fiscal balance and equalization at the federal-provincial level have resulted in a decentralization of financial power into the hands of the provinces on their own terms. The New Brunswick program is a rather dramatic example of the utilization of this power by one province to improve the distribution of educational service among its people. Other provinces are moving toward a similar end in gradual steps. For example, Prince Edward Island recently initiated its own version of the New Brunswick program, Alberta has just enacted a province-wide property tax, the Minister of Education of British Columbia has predicted province-wide financing during the seventies and several provinces have adopted province-wide negotiation of teachers' salaries. All of this suggests that within a decade or so most Canadian provinces will have achieved essentially the same end as New Brunswick.

FOOTNOTE

[1] All statistics quoted in this paper were obtained from or derived from published reports of Statistics Canada. Educational data was obtained from reports of the Education Division of Statistics Canada.

Accomplishing Fiscal Neutrality

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To speak of accomplishing "fiscal neutrality" requires that we first have an understanding about what the term means. The heuristic use of the concept of fiscal neutrality in *Serrano* and related cases has no thorough development in the literature of public finance. I suggest we are free, those of us who are interested in social policy, to define the term in any sensible way that we wish.

TAX NEUTRALITY

It is true that economists have established a principle of neutrality in analyzing the relative worth of different instruments of taxation. A "neutral" tax is one that is free of "side effects." Whereas a tax exists mainly to transfer command of economic resources from private sector to public, the use of a given tax may create certain *specific* incentives for households to modify their behavior in the marketplace, either in their capacity as producers or consumers.[1] Such kinds of influences on households, insofar as they stand aside from the general transfer-of-economic-resources process, are generally regarded as undesirable features of a particular tax instrument.[2]

What are some examples of side effects? A progressive income tax may discourage entrepreneurs from taking risks and salaried persons from engaging in some especially demanding kind of work. The idea is that after one has reached a comfortable level of income, a person finds that much of the extra income derived from a risky venture or from some especially difficult assignment must be surrendered to government; hence, the fact that one can keep only half of any additional income, say, reduces willingness to put oneself out. It is a psychological response, and possibly one of importance.

Excise taxes serve to raise the prices of commodities on which they are levied and, *ceteris paribus*, reduce consumption of those articles. Excise taxes drive a wedge between market price and cost of production; thus, they make impossible an attainment of maximum level of welfare, for such a maximum implies no such interference in exercise of household tastes. Property taxes have effects on location of industrial and commercial properties; accordingly, they effect, *inter alia*, commuting patterns.[3]

None of the side effects cited as examples reflect economic rationality. If a government chooses to use a progressive income tax, it does so on grounds of equity and revenue productivity. The fact that the tax may constrict risk taking and the matching of high level skills to especially demanding work assignments—the establishment of a negative incentive on work effort in general—is deplored. *Tax neutrality*, then, is a criterion of relative worth of tax instruments. That non-neutral taxes are used reflects the condition that the most neutral kinds of tax instruments, such as the value added tax, are deficient on equity critéria.

FISCAL NEUTRALITY DEFINED

Fiscal neutrality implies a principle broader than tax neutrality, for it deals simultaneously with the revenue-raising process and with the distribution-of-benefits process. In their findings in the *Serrano* case, the majority of members of the California Supreme Court expressed dismay that a property-poor school district lacked means to purchase high quality school service. They noted that poor districts would have had to levy a tax rate more than double state average to enjoy the benefits of high educational expenditure. It is immediately clear that the Court had tax burden and service benefits simultaneously under consideration. Strange as it may seem, such a logical type of analysis is new in social policy, at least with respect to the operations of local government.

The view that fiscal neutrality connotes joint examination of tax rates and benefits does not, however, bring us completely to a workable definition of fiscal neutrality. We need a more precise rendering of the principle involved. We also must consider the *unit*, whether school district, class of taxpayer, household, or student, toward which the principle is to be applied.

Though I must cast it in negative terms, I offer the following as the general definition of fiscal neutrality: fiscal neutrality exists when we see no warping or distortion of choice in consumption of tax-financed goods and services on irrational or socially-undesirable grounds.[4] We shall now examine how this principle may be applied to different units of analysis.

FISCALLY-NEUTRAL SCHOOL DISTRICTS

So far, school districts are the units most commonly mentioned in discussions of fiscal neutrality. The California Supreme Court could find no compelling reason for fiscal decisions of school districts to be so thoroughly constrained by the amount of locally-taxable property per student contained within the boundaries of those units of government. The existing system appears to fail the test of *rationality,* for no one has so far suggested a logical connection between requirements of a district for school services and the existence—or lack of existence, say—of a large private public utility within its borders. The *Serrano* case, hence, might have been argued strictly on rationality grounds—this is what choice of school district as unit of analysis means to me. It is irrelevant if a property-poor school district happens to be populated by upper-middle income households. The penalty suffered by the district, i.e., by failing to have commercial and industrial properties available to tax, exists without regard to the income level of the people who live in it.

CLASS OF TAXPAYERS AS UNIT OF ANALYSIS

Yet, we should not forget that plaintiffs in *Serrano* were poor people and that their case was pressed by poverty lawyers. In its ruling on demurrer the California Court held that education is a fundamental interest which, under equal protection clauses of the United States and California Constitutions, should not be distributed under a suspect classification. The suspect classification displayed to the Court was district wealth. However, the Court appeared to assume that wealth of school district was a proxy for household income. Thus, the existing system of finance was seen as one which penalizes poor people.

One might go on to say that an educational system which favors the rich and penalizes the poor is fiscally non-neutral in that it accepts a distortion of choice on the basis of a *socially undesirable* criterion. To so assert would be to hold that the development of human talent is a process of sufficient value that it should stand free of intergenerational forces, such as parental income, as long as privacy is not unduly invaded.[5]

We must now begin to think about how the selection of a unit of analysis affects policy to accomplish fiscal neutrality. If the unit is the school district, then a property-based district power equalizing scheme might be said to serve the purpose. Assume that district expenditure decisions are made by a cabal without regard to educational tastes of the inhabitants of the district or their income. Let members of the cabal, however, prefer lower local tax rates to higher, *other things equal.* District power equalizing would allow the cabals in all the districts of the state to make their decisions on school programs without having to take account, presumably, of local taxable wealth.

Suppose, on the other hand, that the unit of analysis is class of taxpayer and suppose, further, that the objective of fiscal neutrality is to see that poor people have equal means to express their tastes for education as do the rich. Then property-based district power equalizing simply would not serve the objective. If some poor families today are excluded from superior educational opportunities by lack of means to purchase land in affluent, educationally-minded suburbs or to pay the rents that high land values in those places connote, then they would be excluded tomorrow by inability to pay the top tax rates of DPE schedule. I would expect, furthermore, to see poor families who today live in middle income communities segregate themselves into low income communities where school taxes would be low. I would also look for a clustering of commercial and industrial properties and retirement villages into low tax areas, but, unlike now, the tax yield of such properties would not offer benefits to local residents.

Fiscal neutrality in terms of class of taxpayer might be served by DPE with a different local tax base, namely, surtax on Federal income tax liability. The surtax rates could run in the range of 5 to 15 percent. Because Federal income tax liability recognizes size of family and special family hardships (e.g., unusual medical expenses), and because the schedule of rates is quite progressive up to high income levels, DPE based on income tax liability, though not a completely neutral system by class of taxpayer, would be, nevertheless, a system under which a group of poor families could elect to live in a community that sought to receive high quality educational services, for the high DPE surtax rates of that community would be laid on a small or non-existent income tax liabilities of the poor families. The plan would also favor persons of moderate income who desire to have the combination of expensive housing and good education (both kinds of items being favorable for the development of youth, one would think). Taxation of residential property for schools would be abandoned. Non-residential property might become subject to taxation for schools at a statewide rate. This would make taxation of industrial and commercial properties itself more rational, for the benefits from school levies received by the owners of such properties are not ordinarily drawn from a single school district but from the collectivity of districts.

FISCAL NEUTRALITY AND THE INDIVIDUAL HOUSEHOLD

At the present time, the quality and type of educational services consumed directly by a household are intimately linked to its choice of place of residence. This condition is especially characteristic of states which have maintained an administrative structure that includes large numbers of small school districts, but it may exist as well in states with a county district structure if families are restricted in choice of school by attendance areas within the county.

There is no logical connection between household desires with respect to place of residence and household demand for educational services; hence, fiscal neutrality demands that the nexus be broken. For all except the very richest, education is an item of group consumption. Power to choose one's group may be equally important as power to command an adequate supply of dollars to purchase services. In states which have large school districts, such as counties, the solution is relatively simple, in principle: allow choice of school independently of intra-county attendance zones.[6]

For states which have many small school districts, the approach must be somewhat more complicated. I suggest the following plan. Along with DPE based upon surtax on Federal income tax liability, add the following provisions. 1) Allow families to choose any school for their children to which school or public transport is available or to which the household is able to provide its own means of transport. 2) School tax payments levied on a household should follow *pro rata* the children of the household to whatever school they attend. 3) The tax rate paid by the family should be a weighted average of the tax rates levied in all the districts used by the given family. 4) However, the school tax rate paid by any family should never be less than the rate it would pay if it chose to enroll all its children in its district of residence.

The last provision exists to assure that parents are not allowed to achieve a school tax rate advantage over non-parents, i.e., by sending all their children to a low tax rate district. This might be, of course, a *bona fide* choice for some households. In that case, the given family would be paying an excess amount of tax as compared with the families of the same income who lived in the district to which they were sending their children to school. This sum might be credited to them to allow them to purchase supplementary educational services. Or it might be deposited in an "educational improvement fund" of the district.

These proposals, I believe, would go quite a long way toward freeing choice of educational services from choice of residence. For example, I might wish to live in a small school district because of the view, congenial neighbors, etc., but I might wish to send my children to central city schools to benefit from the more diversified program their economies of scale allow them to offer. The plan I have proposed would allow me to do so, and the maximum extra sum I would pay would be the differential, if any, between the central city's school tax rate and that of my home district, plus possibly transport.

This set of proposals admittedly places government in a position of risk. A given district might enjoy a high demand for its services and build physical facilities to accommodate that demand. Later, it might suffer a loss of esteem and find itself with excess capacity. However, risk carries with it gains as well as losses, and I feel that some competitive pressure in the public sector is generally a good thing. Moreover, the possibility of having excess capacity could be minimized by making use of a certain amount of leased space, along with portable facilities.

THE STUDENT AS THE UNIT OF ANALYSIS

In some cases the tastes of students may differ from those of parents in the matter of quality and type of educational services desired. As long as too much in the way of social benefit was not sacrificed and as long as parents did not become too upset, I would favor students having more choice about their educational experiences from, say, the junior high years on. One case where this might be important would be the following. Suppose I choose to live at some distance from a central city in a cluster of small school districts. Let me assume, to make the case as value-free as possible, that I have good reason to do so and that all members of my family approve my choice of residence except for the fact that my children want to have more highly specialized educational services than any of the surrounding small districts can give them. Thus, not even providing for fiscal neutrality of the individual household serves to protect their choice against an irrational constraint.

Choices of students can be served, at least to some degree, by establishing regional educational authorities which, exploiting economies of scale, would offer very specialized courses on an optional basis. Specifically, the regional authorities might issue a "spring catalogue," listing courses ordinary and exotic. Whenever a sufficient number of students signed up to take a given course, they would be guaranteed it, let us say, at the most convenient place available. In this manner, those persons in their teens who have any strong measure of desire, intellectual or otherwise, to study some particular thing, be it harpsichord or design of computers or boat building, should be able to find instruction, either in an academic or practical manner, as made sense in their particular case. The program would allow more specialization by subject and instruction of a deeper, more intensive sort as well.[7]

CONCLUDING NOTE

We have offered a definition of fiscal neutrality and we now see that plans to provide fiscal neutrality may be different as the unit—school district, income class, household, or student—which is to be protected is different.[8] However, plans to provide fiscal neutrality can in a certain sense be additive. That is, as we accept a progressively smaller unit of analysis, going, say, from school district finally to student, we move from property-based DPE to income-based DPE, combined with choice of enrollment across district lines and combined further with regionalized provision of specialized educational services.

Two short additional comments must be made. Full state funding is another approach to fiscal neutrality and it is an approach much simpler, in principle, than the one we have worked through here. The other comment is that we must recognize in concentrating on education that we are adopting a very partial approach to fiscal neutrality. True fiscal neutrality would deal simultaneously with all local public services.

FOOTNOTES

[1] Taxation is employed as an instrument of fiscal policy as well, though mainly by central, not state or local, governments.

[2] On the other hand, the effect of excises on liquor and tobacco products in curbing their consumption may be regarded as socially desirable.

[3] A thorough discussion of tax criteria is given in Carl S. Shoup, *Public Finance*, Chicago, Aldine Publishing Company, 1969, Part II.

[4] *Compulsion* as well as *choice* has its place in social policy. This article is about choice, not compulsion, because the basic economic principle of neutrality implies choice.

[5] Examples of undue invasion of privacy might be the attempt by the State to determine the mating process or to control the amount of reading materials, etc. that educationally-minded families give to their children.

[6] At this point, the reader will see that the objective of fiscal neutrality possibly may stand in conflict with that of social class integration. The matter of trying to reconcile conflicting objectives is for separate study.

[7] This proposal is to be found in the *Report* of the New York State Commission on Quality, Cost, and Financing of Elementary and Secondary Education (Fleischmann), 1972, Volume I, Chapter 2.

[8] Some readers may feel that discussion of student choice goes beyond the definition of anything "fiscal." However, the student is the one and only direct client of educational programs. From his point of view, it makes little difference whether his opportunities are restricted by the fact that he lives in a poor school district or by the fact that he lives in a school district too small to give him specialized services under any conceivable set of tax rates. Fiscal opportunities can relate to costs as well as to wealth.

Cost Differentials and Cost Indices: The Assessment of Variations in Educational Program Costs

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Educators and laymen alike have long recognized that not all educational programs are equally costly. From the time of Ellwood P. Cubberley's first school finance studies[1] at the turn of the century to the present time, some school districts have spent substantially more money than other districts to educate the same number of students. The development of specialized educational programs to meet more adequately the needs of particular types of students has also served to call attention to the fact that some students require relatively more expensive programs to approach equality of educational opportunity. Until the recent efforts of the National Educational Finance Project, however, very little has been known with regard to the magnitude and nature of the cost of providing educational programs tailored to meet the needs of specific types of students—students who deviate from the average or normal child in mental, physical, or social characteristics to such an extent that they require a modification of school practices, or special educational services, in order to develop to their maximum capacity.[2]

As the concept of equality of educational opportunity has been expanded to require that every child be educated to the limits of his abilities, the development of special education programs has kept pace. Early programs for the deaf, the blind, the hard of hearing and the partially-sighted were developed in private schools many years ago. Recently, the programs have been supplemented in the public schools of the various states by extensive program offerings for the educable and trainable mentally retarded, the orthopedically handicapped, the socially and emotionally maladjusted, the intellectually gifted, the speech handicapped, and for students with various types of learning disabilities. And as these special educational programs evolved and became defined according to the differing categories of exceptional children receiving special educational services, changes in the methods of delivering educational services also evolved so that today a broad array of educational delivery systems are used to provide educational services to students with similar exceptionalities. Whereas traditionally the characteristics of the students were the primary criteria for defining a special educational program, increasingly, the characteristics of the delivery system used to provide that program are being recognized as representing another crucial dimension in defining special educational programs.

If it is to be meaningful for financial planning purposes, any attempt to assess variations in educational program cost must consider not only the different types of exceptional children for whom programs are provided, but must also consider variations in the educational services provided to those children. Furthermore, if the assessment of variations in educational program cost is to be of much use to those who make programmatic decisions, it must be related to evidence concerning the effectiveness of the differing program alternatives.

Typically, school funds have been accounted for on a district-wide rather than on a school-by-school basis. Thus, if different delivery systems are used in different schools in a given district to provide education for the same category of exceptional children, it is extremely difficult to develop the data necessary to assess the variation in costs that are attributable to the type of delivery system. Furthermore, only a small percentage of school districts maintain expenditure accounts which enable one to determine the cost of educational programs for a particular category of students defined in terms of either grade level or type of exceptionality. Hence, at the present time it is exceedingly difficult to evaluate the financial inputs to the various educational programs provided in American schools.

But if it is exceedingly difficult to evaluate the financial inputs, it is next to impossible to assess the program outputs which are necessary for any cost-benefit analysis of special educational programs. Until such time as school districts maintain financial, personnel and pupil records on a programmatic basis, the assessment of variations in educational program costs will be an inexact and haphazard affair. And until such time as school districts develop meaningful measures of program effectiveness, financial and program planning for educating exceptional children will likewise be haphazard if not chaotic.

PROCEDURES FOR ASSESSING VARIATIONS IN EDUCATIONAL PROGRAM COSTS

The process of assessing the variations in costs associated with different types of educational programs in a given state consists of identifying the differentiated educational program structure—including the types of delivery systems for which cost differentials and cost indices are desired, selecting a sample of school districts to be included in the study, collecting the data necessary for computing the variations in program costs, developing program cost configurations, and projecting potential program populations. Although the specific details of the process will vary from state to state depending upon the availability and composition of the necessary data, and the program structure and delivery systems selected for analysis, the following general description of the procedure provides a composite overview of the methods employed in several of the studies to date.

Identification of Differentiated Educational Program Structure

Identification of the differentiated educational program structure to be analyzed is the first step in the process and one with many hidden pitfalls. The literature in the field of special education generally supports a taxonomy of special education programs which includes programs for the intellectually gifted and for the intellectually handicapped; programs for the speech handicapped, visually handicapped and auditorily handicapped; programs for the orthopedically handicapped, programs for students with learning disabilities, programs for the emotionally disturbed and/or socially maladjusted, and in many cases programs for students with multiple handicaps. In addition, many of these categories are further subdivided. Thus, programs for the intellectually handicapped are often identified as being directed to the educable mentally retarded and the trainable mentally retarded, and programs for the auditorily handicapped are identified as being directed to the hard of hearing or partially deaf and the deaf. Furthermore, these various programs are provided at several levels of the educational system.

Preschool programs are often categorized as early childhood special education programs and kindergarten programs and at the secondary level occupational education programs are often distinguished from regular educational programs. Table 1 illustrates a typology of educational programs which provides a high level of detail. The use of such a typology will, if the needed data are available, result in a comprehensive and detailed set of cost differentials and cost indices which could be very useful in the financial planning of an educational system. But it should be noted that the data requirements posed by a detailed structure like that in Table 1 are very high indeed. In the first place, the adoption of a particular program structure has implications for the size of the sample of school districts to be included in the study since each program must occur with sufficient incidence to enable meaningful conclusions to be drawn from the data. Secondly, the usefulness of a particular program structure must be evaluated in terms of its consistency with the availability and composition of the data necessary to compute the cost differentials and indices. A third consideration relates to the use to which the resultant data are to be put. The level of detail necessary for projecting costs for state support programs may be very different from that needed to evaluate the cost differentials between various program delivery systems. A final consideration is that the program structure which is adopted should be sufficiently detailed to identify the meaningful distinctions between programs being offered in the state, yet not so detailed as to create artificial distinctions which are not evidenced in the program delivery systems.

TABLE I

TYPOLOGY OF EDUCATIONAL PROGRAM STRUCTURE

- I. Preschool Programs

  - A. Early Childhood Special Education
  - B. Kindergarten

- II. Elementary Programs

  - A. Regular Program
  - B. Programs for the Intellectually Gifted
  - C. Programs for the Intellectually Handicapped
    - 1. Programs for the Educable Mentally Retarded
    - 2. Programs for the Trainable Mentally Retarded
  - D. Programs for Students with Learning Disabilities
  - E. Programs for the Emotionally Disturbed and Socially Maladjusted
  - F. Programs for the Speech Handicapped
  - G. Programs for the Visually Handicapped
    - 1. Programs for the Partially Sighted
    - 2. Programs for the Blind
  - H. Programs for the Auditorily Handicapped
    - 1. Programs for the Hard of Hearing
    - 2. Programs for the Deaf
  - I. Programs for the Orthopedically Handicapped
  - J. Programs for Students with Multiple Handicaps

- III. Secondary Programs

  - A. Regular Program
  - B. Programs for the Intellectually Gifted
  - C. Programs for the Intellectually Handicapped
    - 1. Programs for the Educable Mentally Retarded
    - 2. Programs for the Trainable Mentally Retarded
  - D. Programs for Students with Learning Disabilities
  - E. Programs for the Emotionally Disturbed and Socially Maladjusted
  - F. Programs for the Speech Handicapped
  - G. Programs for the Visually Handicapped
    - 1. Programs for the Partially Sighted
    - 2. Programs for the Blind
  - H. Programs for the Auditorily Handicapped
    - 1. Programs for the Hard of Hearing
    - 2. Programs for the Deaf
  - I. Programs for the Orthopedically Handicapped
  - J. Programs for Students with Multiple Handicaps
  - K. Occupational Education Programs

Identification of Differentiated Program Delivery Systems

The second step in the process of assessing variations in educational program costs is identification of the alternative delivery systems which may be employed to provide the programs under consideration. Although this step is often not explicitly considered in practice, the magnitude of the differentials in educational cost are inextricably linked to the type of delivery system used in providing the various educational programs. Table 2 presents a typology of delivery systems for educational programs which includes delivery systems based upon regular classroom organization, special classroom organization, special day schools, residential schools, and homebound or hospitalized instructional systems. Delivery systems based upon regular classroom organization are those in which the exceptional child is "mainstreamed," i.e., spends all or a major portion of the school day in a regular classroom. Variations on this theme include the regular classroom itself where regular students receive instruction and no special educational services are provided for the exceptional child; regular classrooms with special consultants where the regular classroom teacher is provided with consultative support concerning the teaching of exceptional children in the classroom; regular classrooms with itinerant teachers where the exceptional children in the regular classroom receive a portion of their instruction from an itinerant special teacher; and regular classrooms with a resource room where the exceptional child spends a portion of his or her day receiving instruction from a special education teacher in a specially equipped resource room. The special classroom organizational pattern can be subdivided into two types—the full-time segregated special education classroom and the part-time classroom where the exceptional child spends the major portion of his or her day in the special classroom but attends "specials" such as art and music with regular children.

The conclusion that an educational program directed toward children with special educational requirements varies in cost from the regular educational program provided at a given school is based upon

Table 2

Typology of Educational Program Delivery Systems

I. Regular Classroom Organization
    A. Regular Classroom
    B. Regular Classroom with Special Consultant
    C. Regular Classroom with Itinerant Teacher
    D. Regular Classroom with Resource Room

II. Special Classroom Organization
    A. Part-Time Special Education
    B. Full-Time Special Education

III. Special Day School

IV. Residential School

V. Homebound or Hospitalized

the assumption of differing delivery systems for the differing programs. Thus, by explicitly considering the types of delivery systems used in special education programs when designing a study, the meaningfulness of the cost differentials and cost indices obtained can be substantially enhanced. Instead of obtaining a composite cost differential based on a mix of delivery systems for a given special education program, discrete differentials for various delivery systems for a given special education program can be obtained--thereby greatly expanding the utility of the study as a financial planning tool. Again it must be noted that the degree of detail adopted in the typology of delivery systems imposes requirements on the data collection phase of the study which can be very high and, as with the educational program structure, a balance based upon the particular needs of those who will utilize the results of the study should be sought. Ideally, an educational program structure can be developed which reflects the discrete program delivery systems and which is not so detailed as to be unmanageable.

Selection of School Districts

The third step in the process of assessing variations in educational program costs is to select a representative sample of school districts which reflect those educational program attributes that are considered important. The size of the sample of school districts must be sufficiently large so as to include all of the educational programs and delivery systems which have been included in the program structure with sufficient frequency to permit meaningful conclusions to be drawn. The sample should be composed of school districts which provide kindergarten and regular educational programs of acceptable quality for grades 1-12 and likewise provide acceptable special educational offerings. The sample should also be structured so as to reflect the social, economic and demographic characteristics of the state and its geographical diversity.

Assessment of Variations in Educational Program Costs

The fourth step in the assessment of variations in educational program costs is collection of the data and computation of the cost differentials and cost indices. The first item of data which must be collected for the study is the full-time equivalent student enrollment in each educational program in each school district by grade level. Average daily membership is preferable to average daily attendance in developing full-time equivalent enrollment data since the planning of educational programs should generally be based upon the number of children enrolled in the schools, not upon the exigencies of attendance patterns. Students in part-time programs such as a half-day kindergarten class must be converted to full-time equivalencies for computational purposes.

The second item of data which must be collected for the study is the current expenditure for each educational program in each school district by grade level. Since most school districts do not maintain accounting records based on educational program structures, this step usually requires that current expenditures be allocated to programs and grade levels within the school district. Various rules can be used to allocate different categories of expenditures to program and grade level depending upon the availability of supporting data and the accuracy desired in the final results. For instance, if records show which students are transported and the distance each student is transported, transportation costs can be allocated accurately to programs by calculating the transportation mileage for students in a particular educational program as a percentage of the total transportation mileage for all students in the school district. Many categories of expenditure may be assumed to apply equally to each student regardless of the educational program they are receiving, unless evidence to the contrary is provided. Instructional costs represent the largest single category of expenditure which influence cost differentials and cost indices and the allocation of instructional costs is a primary determinant of the final results. The number of full-time equivalent teachers in a special education program as a percentage of the total number of full-time equivalent teaching staff is one method which has been used to allocate instructional costs among programs. If this is done, it must be remembered that the type of delivery system employed will affect the full-time equivalency of the teaching staff in a particular program. For instance, in the situation where a program for the educable mentally retarded is delivered through the use of a regular classroom with an itinerant teacher, the full-time equivalent teaching staff serving the educable mentally retarded includes not only the itinerant teacher, but also that portion of the regular teacher which represents the percentage of students in the regular classroom who are educably mentally retarded. Thus, for a teacher with a class of twenty-five students, of which five are EMR's, 20 percent of the regular teacher's time would be allocated to the special program for educable mentally retarded students and 80 percent of the teacher's time would be allocated to the regular program.

After current expenditures have been allocated to programs and grade levels, the cost per student by program within grade level is calculated by dividing the total program cost by the number of full-time equivalent students in the program. The difference between the regular program cost per student and the special program cost per student represents the cost differential for the special program. The cost index is computed by dividing the special program cost per student by the regular program cost per student. Table 3 illustrates the variations in educational program costs for educable mentally retarded elementary school students and regular students in six school districts. District C has the highest special program cost per student of $1,152 and also the largest cost differential of $528. The resulting cost index is 1.85. District B has the lowest special program cost per student but, since it also has the lowest regular program cost per student, its cost differential and cost index are higher than District A's. Note that District A and District D have special program costs which are almost identical but, because of the great difference in their regular program costs, the cost differential and cost index of District A are the lowest of the six districts whereas District D has a cost index higher than any other district with the exception of District C. The mean special program cost per student is $957 and the mean regular program cost per student is $570. The mean cost differential is $386 and the mean cost index is 1.69 for the six school districts.

Table 3

Variations in Educational Program Costs
Cost Per Full-Time Equivalent Elementary Student in Special Education
Programs for the Educable Mentally Retarded

District	*Special Program Cost Per Pupil*	*Program Cost Per Pupil*	*Cost Differential*	*Cost Index*
A	$ 851	$600	$251	1.42
B	795	460	335	1.73
C	1,152	624	528	1.85
D	847	476	371	1.78
E	999	572	427	1.75
F	1,096	690	406	1.59
High	C	F	C	C
Low	B	B	A	A
Mean	957	570	386	1.69

Assessment of Program Cost Configurations

Examination of the differences in cost configurations of special educational programs is the next step in the process of assessing variations in educational program costs. By comparing the regular and special program cost per pupil by category of expenditure for the lowest, the mean, and the highest cost school districts, the sources of cost variations can be analyzed.

Table 4 presents the program cost configuration for elementary special educational programs for the educable mentally retarded for the districts whose cost differentials and cost indices were described in Table 3. The cost indices shown in Table 4 are based upon the regular program cost for each particular category of expenditure in the school district under consideration. The highest cost school district spent considerably more for administration of its EMR program than for its regular program—3.44 times as much in fact—yet it spent less on the administration of its EMR program than did the lowest cost district—$36 as opposed to $40. The highest cost district spent $781 per pupil for teachers' salaries for its EMR staff, which is 2.71 times the cost per pupil for its regular staff. The lowest cost district spent only $320 per EMR pupil for teachers' salaries, which is 1.53

times the cost per regular pupil for teaching staff salaries. The cost per EMR pupil for operation and maintenance of plant was $107 in the highest cost district, or 3.13 times the cost for its regular program; in the lowest cost district the cost was $54, or 1.50 times the regular per pupil cost. The highest cost district appears to have concentrated a large portion of its costs in teachers' salaries and operation and maintenance of plant; the cost indices indicate these to be the areas where the EMR program differs most from the regular program. The highest cost district, therefore, evidently uses a delivery system for its EMR program which is characterized by a low teacher/pupil ratio and thus has relatively few pupils in a given classroom compared with the regular program organization. The lowest cost district apparently used a delivery system not radically different from that used in the regular classroom—possibly a regular classroom with a special consultant.

TABLE 4

PROGRAM COST CONFIGURATION
EXPENDITURE BY FUNCTION FOR ELEMENTARY SPECIAL EDUCATION
PROGRAMS FOR THE EDUCABLE MENTALLY RETARDED

	School District					
	Highest		*Mean*		*Lowest*	
Expenditure Category	*Cost/ Pupil*	*Cost Index*	*Cost/ Pupil*	*Cost Index*	*Cost/ Pupil*	*Cost Index*
Management						
Administration	$ 36	3.44	$ 31	1.30	$ 40	1.60
Clerical & Secretarial	9	1.80	18	1.00	34	1.36
Instruction						
Teachers	781	2.71	598	1.25	320	1.53
Teacher Aides	15	1.32	17	1.67	7	1.21
Instructional Support						
Supplies & Equipment	18	2.96	15	1.09	20	1.11
Guidance & Counseling	18	2.25	9	1.00	8	3.58
Other	41	18.18	19	1.46	59	9.28
Institutional Operations						
Operation & Maintenance	107	3.13	141	2.94	54	1.50
Fringe Benefits	27	1.00	30	1.73	45	1.46
Other	13	1.00	49	1.00	164	1.00
Services						
Health	24	12.00	5	1.00	2	1.00
Food	53	1.00	14	1.00	30	1.00
Transportation	10	9.00	11	11.00	12	1.00
Total— Current Operation	1,152		957		795	

Projection of Potential Target Populations

The final step in the study of variations in educational program costs consists of projecting the potential target populations by area of exceptionality thereby enabling future cost projections to be made. If the cost study is to be used for developing cost estimates for state support programs for special education, the projection of potential target populations, taking into consideration the increasing emphasis on early identification and treatment of exceptional children, will provide the data necessary for assessing future revenue requirements.

COST DIFFERENTIALS AND COST INDICES FOR SPECIAL EDUCATIONAL PROGRAMS

Cost differentials and cost indices for special education programs were compiled in the pioneering effort of the National Educational Finance Project and in several more recent studies undertaken by various states. Because of the difficulties inherent in obtaining expenditure data organized by educational program and type of delivery system, in the more recent efforts in the states it has generally been necessary to resort to procedures for allocating expenditures which are not comparable to those used in the national project. The National Educational Finance Project research found that all components of expenditure contributed to the cost differentials in programs for exceptional children with the exception of clerical and secretarial services and expenditures for food services. The generally less detailed systems for allocating expenditures in the state studies probably understate the true cost differentials and cost indices. For instance, in the state studies the allocation of expenditures for the operation and maintenance of plant is often made on the basis of the total student population assuming all students occupy an equal amount of space, whereas the NEFP research allocated operation and maintenance of plant on the basis of actual allocations of space to special educational programs.

The National Educational Finance Project's study of cost differentials in educational programs for exceptional children utilized a national sample of districts selected as being exemplary in their programming and which probably represented districts with among the highest per pupil expenditures for special educational programs in the state. Thus, the difference in samples also serves to undermine the comparability of the state and national studies.

The National Educational Finance Project used a composite regular program cost which included both the elementary and secondary levels as the base for determining cost differentials and cost indices. Several of the state studies have related elementary special education program costs to elementary regular program cost and secondary special education program costs to secondary regular program cost. Still other state studies have related special education program costs regardless of level to the elementary regular program cost. Furthermore, the educational levels used were generally not comparable. In one state study the elementary grades were defined as K-6 while another defined them as 1-8 and a third as 1-6. The secondary level was variously defined as 7-12, 9-12 and as 10-12 in a state where a middle level of 7-9 was included.

Another area of incomparability in the various studies conducted to date concerns the definitions of special educational programs and the exceptionalities included. The studies also examined different school years and reflect differences in the cost of hiring associated with the different geographical areas they represent and the different years in which they were conducted. Keeping in mind these differences, some of the findings of these studies are summarized in Table 5.

Regular Educational Program

The National Educational Finance Project study computed the regular educational program cost to include both the elementary and secondary grade levels. The mean regular program cost per pupil was $692 and the cost ranged from a low of $468 per pupil to a high of $1,193 per pupil. The state studies generally have found regular program costs slightly lower than those found in the NEFP study.

Programs for the Intellectually Gifted

The NEFP found a mean cost index of 1.13 for programs for the intellectually gifted while the only state study which included programs for gifted pupils found a mean cost index of 1.88 for elementary gifted programs and 1.49 for secondary gifted programs.

Programs for the Educable Mentally Retarded

A mean cost index of 1.92 was found in the national study with a low index of 1.14 and a high index of 3.21 for educable mentally retarded programs. The state studies reported mean indices of 1.48 for elementary (K-6) and 1.68 for elementary (1-8) educable mentally retarded programs while the secondary indices were 1.35 and 1.49, respectively.

Programs for the Trainable Mentally Retarded

The NEFP reported cost indices ranging from a low of 1.18 to a high of 3.62 and a mean of 2.20 for trainable mentally retarded programs whereas the state studies reported indices of 1.66 for elementary (K-6), 1.73 for elementary (1-8), 1.24 for secondary (7-12), and 1.48 for secondary (9-12).

Programs for Students with Learning Disabilities

Programs for students with learning disabilities were reported to have cost indices of 2.31 for elementary (K-6), 1.52 for elementary (1-8), and 2.25 for secondary (7-12) by the state studies. (The second-

TABLE 5

COST INDICES FOR SPECIAL EDUCATION PROGRAMS

	A	*B*	*NEFP**	*C***		*D****
Preschool Programs	...	1.05	...	...	...	—
Early Childhood	...	...	...	...	...	
Kindergarten	...	1.05	...	...	...	
Elementary Programs	1.71 (K-6)	1.76 (1-8)	...	2.21 (1-6)		
Gifted	...	1.88	1.13			
Educable Mentally Retarded	1.48	1.68	1.92			
Trainable Mentally Retarded	1.66	1.73	2.20			
Learning Disabilities	2.31	1.52	2.50			
Socially & Emotionally Maladjusted	1.97	1.60	3.70			
Speech Handicapped	...	1.62	1.25	1.36		
Blind	1.83	...	3.48			
Deaf	...	1.65	3.15			
Partially Sighted	1.83	1.79	3.48			
Hard of Hearing	3.03	1.62	3.15			
Orthopedically Handicapped	1.75	1.54	3.26			
Multiple Handicapped	...	1.65	2.80			
Secondary Programs	1.51 (7-12)	1.80 (9-12)		2.30 (7-9)	2.71 (10-12)	1.88
Gifted	...	1.49	1.13			
Educable Mentally Retarded	1.35	1.49	1.92			
Trainable Mentally Retarded	1.24	1.48	2.20			
Learning Disabilities	2.25	...	2.50			
Socially & Emotionally Maladjusted	1.96	1.35	3.70			
Speech Handicapped		1.91	1.25	1.52	1.57	
Blind	2.48	...	3.48			
Partially Sighted	2.48	1.70	3.48			
Deaf	...	1.22	3.15			
Hard of Hearing	3.05	1.25	3.15			
Orthopedically Handicapped	1.33	...	3.26			
Multiple Handicapped	1.65	...	2.80			
Occupational Programs	1.60	1.55				

* Elementary & secondary levels were not distinguished and the base cost was 1-12 inclusive.
**Elementary, middle, & secondary levels were distinguished and the base cost was the elementary level.
***Elementary & secondary levels were not distinguished and the base cost was the elementary level.

ary [9-12] differential was not included in any study.) The cost indices found by the NEFP were 2.50 for the mean, 1.40 for the low and 5.20 for the high.

Programs for the Socially and Emotionally Maladjusted

The NEFP study reported cost indices ranging from a low of 1.58 to a high of 11.64 and with a mean of 3.70 for programs for emotionally disturbed students. The state studies found indices of 1.97 for elementary (K-6), 1.60 for elementary (1-8), 1.96 for secondary (7-12) and 1.35 for secondary (9-12) for socially and emotionally maladjusted students.

Programs for the Speech Handicapped

Cost indices for speech programs of 1.62 for elementary (1-8) and 1.91 for secondary (9-12) were reported by one state, while another state reported indices of 1.36 for elementary (1-6), 1.52 for middle (7-9) and 1.57 for secondary (10-12) using the regular elementary program as the base for all three indices. The National Educational Finance Project found indices of 1.09 for the low 2.12 for the high and 1.25 for the mean.

Programs for the Visually Handicapped

Visually handicapped programs had cost indices of 1.83 and 1.79 for elementary (K-6) and (7-12), respectively, and 2.48 and 1.70 for the comparable secondary programs in the state studies while a mean cost index of 3.48, a high index of 11.45 and a low index of 1.05 were found in the National Educational Finance Project study.

Programs for the Auditorily Handicapped

The national study found cost indices of 3.15 for the mean, 1.05 for the low and 5.88 for the high in programs for the auditorily handicapped. One state study found a mean cost index of 3.03 for elementary (K-6) hard of hearing programs and 3.05 for secondary (7-12) hard of hearing programs. A second state study found cost indices of 1.65 for deaf and 1.62 for hard of hearing programs at the elementary (1-8) level and 1.22 for deaf and 1.25 for hard of hearing at the secondary (9-12) level.

Programs for the Orthopedically Handicapped

The national project found the mean cost index for orthopedically handicapped programs to be 3.26 with a range from a low of 1.52 to a high of 4.64. The state studies found indices of 1.75 for elementary (K-6), 1.54 for elementary (1-8) and 1.33 for secondary (7-12). The state studies did not include an orthopedically handicapped program at the secondary (9-12) level.

Programs for the Multiple Handicapped

The NEFP found a mean cost index of 2.80 for multiple handicapped programs with a low index of 1.90 and a high index of 3.86. Only one state study included multiple handicapped programs and that was only at the elementary level where a cost index of 1.65 was found.

Special Educational Programs

Several state studies calculated cost indices for special educational programs generally without distinguishing the indices for each of the programs included. One state found cost indices of 1.71 for elementary (K-6) and 1.51 for secondary (7-12). Another state found indices of 1.76 for elementary (1-8) and 1.80 for secondary (9-12). A third state found elementary (1-6) special educational programs to have a mean cost index of 2.21, middle (7-9) special educational programs to have a mean cost index of 2.30 and secondary (10-12) special educational programs to have a mean cost index of 2.71 using the regular elementary program as the base for all three indices. A fourth state study found an index of 1.88 for all special educational programs using the cost of the regular elementary program as the base.

Occupational Educational Programs

Cost indices of 1.60 for secondary (7-12) and 1.55 for secondary (9-12) were found in two state studies. The NEFP did not include cost indices for occupational programs. A third state study found a cost index of 1.60 based on the cost of the regular elementary program.

THE APPLICATION OF COST INDICES

Considerable misunderstanding exists with regard to the application of cost indices in planning for the financing of educational programs. Cost indices are most appropriately used for state-wide planning purposes. The availabality of accurate cost indices for the state as a whole should permit more accurate estimates of the amount of revenue needed to provide adequately for the special educational needs of all pupils. It must be emphasized, however, that an average is just that. Approximately one-half of the school districts in the state will be spending more than the state-wide average and the remaining one-half will be spending less. It is clear that using the average cost index for all educational programs, state-wide, as a basis for allocating funds to individual districts will not necessarily provide adequately for the specific educational needs of pupils in those districts. Even using the average cost index for a particular educational program state-wide as a basis for allocating funds confronts the same problem.

A second limitation of cost indices lies in the fact that they reflect current educational practice. The cost indices developed in most studies in no way reflect the efficacy or efficiency of the educational programs upon which the cost indices are based. Thus, cost indices typically reflect what is currently being done rather than what could be or what should be done in the way of educational programming.

A third limitation is closely related to the second. Cost indices show the relative cost of educating pupils in special programs compared with the cost of educating pupils in regular programs. They provide no information as to how wisely and how efficiently funds are being expended for either regular or special educational programs. A particular special education program may be offered to equal numbers of students, provide the same educational services and cost the same amount per pupil in two school districts where the regular or base educational programs differ in efficiency and effectiveness. As a result, the cost indices for the special educational program may vary widely. This points to the need for a well developed, carefully monitored evaluation of all educational programs based upon the desired outcomes if cost indices are to be interpreted properly.

Finally, it should be noted that for a variety of reasons, costs will differ between districts for identical programs. For example, in some districts, the cost of transporting pupils involved in special programs will be much greater than in other districts. A very important factor in determining the relative cost of educational programs is the pupil/teacher ratio. Some districts will have too few pupils to operate a program at maximum efficiency, but pupils who live in such districts certainly should not be denied access to the educational programs they need simply because there are not enough of them to operate a class at maximum efficiency. Differences in salaries and in the cost of educational supplies and materials will be found between districts and these differences also will be reflected in the educational program costs.

While educational cost indices and cost differentials provide a valuable planning tool, we wish to point out their limitations and to emphasize the importance of securing the most detailed information concerning program inputs and their relationship to program effectiveness and efficiency in order that planning decisions will be based on a full appreciation of the implications of the supporting evidence.

FOOTNOTES

[1] Ellwood P. Cubberley, *School Funds and Their Apportionment,* (New York: Teachers College, Columbia University, 1905).

[2] This definition of the exceptional child is a paraphrase of that of Samuel A. Kirk. See Samuel A. Kirk, *Educating Exceptional Children* (Boston: Houghton-Mifflin, 1962), pp. 4-5. Although the definition includes children who suffer environmentally-related disadvantages, compensatory programs for the socially, economically, and/or culturally disadvantaged are generally excluded from the cost differential studies discussed in this paper.

Educational Personnel: Supply and Demand

The Teacher Case Under Oligopoly

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In the past few years I have had the opportunity to again consider some of my undergraduate training in economics. Not so much in the classical, neo-classical and Keynesian sense (or non-sense) of those earlier days, but more the writings of Becker,[1] Schultz,[2] Hansen,[3] Weisbrod,[4] Bowman[5] and others relating to both the qualitative and quantitative aspects of investment in human capital (education). And, I might add, I find those notions most attractive primarily because they deal with people, and people development—which is a significant conceptual leap from the classical concept that the marginal productivity of labor equals one. However, the purpose here today is neither to explore Balogh and Streeten's treatment of the Cobb-Douglas production function[6] and their accounting for the unaccounted factors relating it to the Gross National Product, nor to assess Bowles' linear programming model for the educational sector.[7] I do feel that the Arrow-Capron model explaining the market dynamics of the scientist-engineer shortage[8] of another decade does have some relevance to our purpose of exploring the supply-demand relationships for educational personnel, as to some of the more esoteric neo-classical notions of yesterday.

First, I shall briefly describe the Arrow-Capron model and provide a limited critique of its constructs as they may or may not apply to our purpose. Second, I would like to explore other framework for assessing the supply-demand relationships for educational personnel which may prove fruitful to our understanding of the dynamics of those relationships. And finally, I would like to suggest several topics for our consideration relative to what the future might hold for both our professional hiring practices within school districts and our teacher-training practices at colleges and universities.

Now, with that introduction and my having displayed my erudition with the contemporary literature on the economics of education, and concomitantly punching again my academic union card, let me auspicate the presentation by suggesting that we view what follows as a series of puzzles. And further, that we focus our thinking upon a few attempts to piece together a somewhat clearer picture of a portion of that reality which projects the conditions of supply and demand for public school teachers.

A time-honored technique employed by men to relate to each other either abstract or quasi-abstract notions has been to argue from analogy (in literature class we called it a metaphor and in Sunday school class we called it a parable). Those who select to employ this technique take care in developing the analogy such that little or nothing is lost in the translation from analogy to reality. With that caution in mind then, let us proceed to review the Arrow-Capron model for purposes of analogy.

THE ENGINEER-SCIENTIST SUPPLY & DEMAND PUZZLE

First, let us establish the conditions which precipitated the Arrow-Capron analysis. Based upon data from the Blank and Stigler study of *The Supply and Demand of Scientific Personnel*[9] and the Beste[10] case study of the chemical industry, Arrow and Capron sought to explain the dynamics of the supply-demand relationship and the associated "shortage" of the trained engineer-scientist population in the United States during the 1950's.

Drawing primarily from Marshallian analysis of the equilibrating process, the model builders first assumed stability of the market mechanism and postulated that (in the classical sense) the shortage observed during the equilibrating process is transitory and tends to disappear as the price approaches equilibrium. That is to say, as in Figure 1, if p_1 represents the average salary of the scientist-engineer profession then q_1 is the number of trained individuals who will be available for employment. However, the market demands q_2 number of individuals at price p_1 and therefore the industry is experiencing a shortage of trained individuals in the amount of q_2 minus q_1. The obvious short-run equilibrium average salary is P and the price differential of $P - p_1$ is the causative factor of the shortage and market forces then operate to pressure average salary p_1 toward P. However, they hasten to add that if the demand curve is steadily shifting upward at the same time that a shortage in supply exists, then the short supply will persist and the price will continue to rise.

The latter condition is presented in Figure 2 where D_1 represents the original demand curve for engineers and D_2 represents the new demand arising from changes in external conditions. The equilibrium

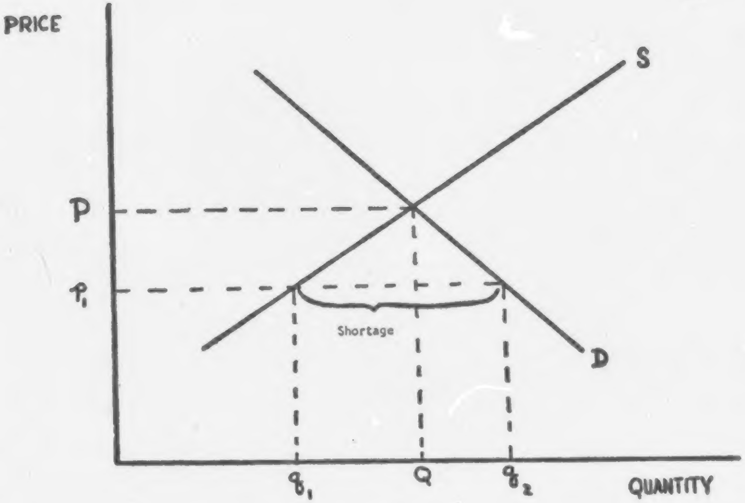

Figure 1
Supply and Demand for Scientists-Engineers (Arrow-Capron)

position attained through market forces in Figure 1 is now a position of short supply in Figure 2. Arrow and Capron suggest that this condition will also be accommodated through market forces as salaries are adjusted to attract more individuals to enter the field. And, they seem

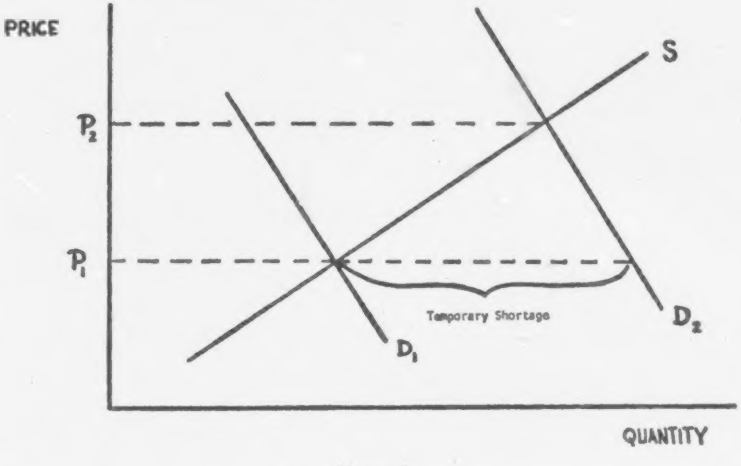

Figure 2
Increase in Demand for Scientists-Engineers (Arrow-Capron)

to be aware of the training time-lag constraining that adjustment as they proceed to model the dynamic shortages and price rises as functions of the elasticities of supply and demand.

I shall not prevail upon your patience by reviewing the calculus of the Arrow-Capron model but they are essentially computing the magnitude of the dynamic shortage as functions of:

(1) the rate of increase in demand,
(2) the reaction speed of the market, and
(3) the elasticity of supply and demand.

Finally, their argument is that the interaction of rising demand with price movements, which do not instantaneously equate supply and demand, provides a plausible interpretation of the scientist-engineer shortage of the 1950's.

CRITIQUE: VIS-A-VIS THE EDUCATION PUZZLE

I find the Arrow-Capron model most attractive for its simplicity. And, if they were to look at more contemporary data I wonder if the model would accommodate the oversupply of engineers in the space industry resulting from N.A.S.A. program cutbacks and the cancellation of the S.S.T. Certainly they could test the contrary case but I suspect demand elasticity would not highly correlate to price.

I do feel that the model may have some application to the supply-demand relationships experienced *within* the education industry. However, I do not feel that we can accept the model as it exists because of the competitive market assumption upon which the model is based. If we consider inter-school district competition for teachers then we may give more weight to the pricing function. But, if we are considering the whole industry, as the model does, then I feel we have to look for another model since we cannot meet the assumption that industry prices (salaries) are a function of the competitive market. The education industry simply has too many individuals providing second or supplementary family incomes on a job that follows their children's school calendar; and for those reasons alone we cannot assume individual job choice to be a function of price.

And too, as Arrow and Capron point out, the price-mechanism cannot be expected to function if indeed there is external interference with the mechanism, i.e., if prices are controlled. I would suggest that in the education industry that is exactly what happens and thus accentuates my concern for a different set of assumptions to precede supply-demand analysis.

THE EDUCATION INDUSTRY PUZZLE

It is a common practice among those who piece together picture puzzles to first assemble the edge pieces, and beginning with the four corners to complete the perimeter and then attempt to fill-in the center through color and pattern discriminations. I too began this puzzle of supply-demand relationships by looking for edge-pieces, i.e., what econometric model or framework might I use to overlay the data. The most obvious solution seemed to be the Arrow-Capron model so I proceeded to determine what data I might use to explicate the model for our purposes. However, after assembling numerous NEA Research Bulletins and other data-laden publications, I reviewed the Arrow-Capron model only to discover the weakness of their assumptions for our purposes as outlined above. Therefore, I set out to employ the *Gestalt* approach to puzzle building, i.e., look for whole relationships among the pieces. (I think that process is what my intermediate statistics professor once called the "bi-optic trauma analysis"—the data hits one between the eyes.)

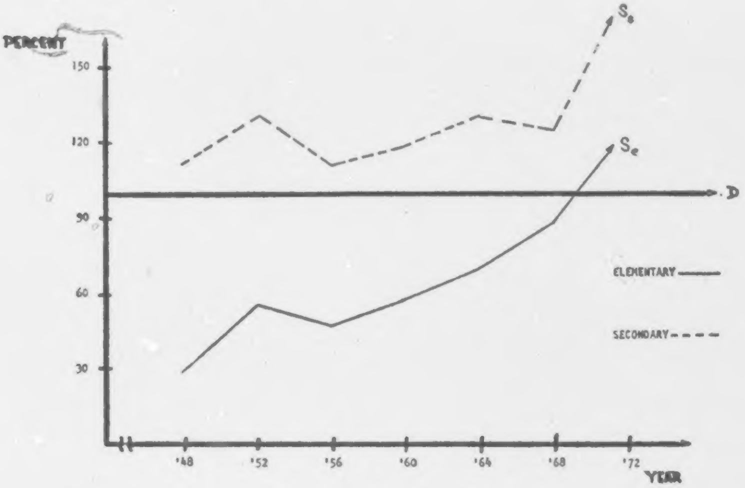

Figure 3
Teacher Education Graduates as a Percent of New Teachers Employed in Selected States
Source: Teacher Supply and Demand in Public Schools, 1972. NEA Research Report 1972-R8.

One of the more direct approaches to assessing market conditions for a product is to determine how well the product is moving—that is in our case, to what extent are college graduates holding teaching certificates gainfully employed within the education industry. Figure 3 represents the data from a 1972 NEA study on "Teacher Supply and Demand in Public Schools." By establishing demand as 100% determined need (as reported by school districts) and then plotting the teacher education graduates as a percent of new teachers employed one is immediately confronted by two facts. First, there has never been a shortage of secondary teachers for the years reported. That fact is readily mediated when one remembers that the graphs represent aggregated data. A closer inspection of the data reveals that we have consistently over produced secondary teachers of agriculture, art, biology, physical education, and social studies, among others, while a short supply is evidenced for some years in the areas of chemistry, mathematics, library science and a few others. Currently our deficient supply seems to be in the areas of mathematics and special education although not critically so.

The second obvious fact illustrated by the graph is that about 1970 the elementary teacher supply-demand relationship was equilibrated. Again, this does not mean some districts were not experiencing unfilled positions, but that industry-wide the supply was and continues to be sufficient to fulfill demand. This relationship is further demonstrated in Figure 4 which depicts the long-run supply and demand for elementary teachers. Note that until 1970 the demand curve was upward sloping and almost paralleled the supply curve. However, we are not relating supply and demand to price at this juncture so one must be careful not to read more into Figure 4 than it represents.

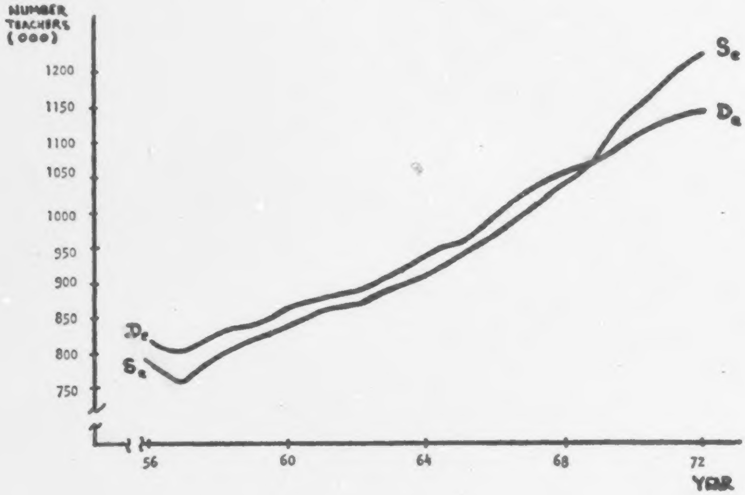

Figure 4
Long-run Supply and Demand for Elementary Teachers

Now one may expect that even the NEA would report an oversupply of teachers when confronted with their own data. Not so, they proceed to rationalize what they call the Quality Criterion and dutifully calculate a dubious statistic demonstrating not an oversupply, but a demand for almost one-million more teachers. Let me hasten to add that I find no quarrel with their reducing the pupil-teacher ratio from 34:1 to 24:1 at the elementary level and a similar reduction for the secondary level. I'm not sure how that relates to quality but I can agree that it would increase the demand for teachers.

THE INDIFFERENCE CURVE PUZZLE

Although I have no evidence of wide-spread practices of a pupil-teacher ratio of 34:1, I feel that musing the merits of pupil-teacher ratios is beyond the scope of this discussion. We must however, note that the pupil-teacher ratio is one of the trade-offs local school boards make, among others, when faced with increased demands for teacher salaries. I do think that fruitful research could be done to determine the extent to which teacher positions are traded, both individually and simultaneously, against pupil-teacher ratios and so called para-professionals. I would further suggest the indifference map model may be an appropriate framework for that analysis. Although I had hoped to provide some data relative to that important dimension of our topic, time prohibited my inquiry.

Essentially, the model is a set of indifference curves that, taken over time, allows one to determine the substitution propensities associated with various decisions to employ public school teachers. I would further suggest that for a primer on this subject one consult the appendices of Benson's earlier edition[11] and advance to Allen[12] for the computational aspects. Because I have not prepared data for your consideration relative to indifference mapping I shall not explore its structural aspects further but turn to another puzzle for your consideration.

THE OLIGOPOLY-OLIGOPSONY PUZZLE

Leftwich[13] has clearly articulated three classifications of oligopolistic industries. Those classifications include:

Class I: Organized, collusive oligopoly,
Class II: Unorganized, collusive oligopoly, and
Class III: Unorganized, noncollusive oligopoly.

I shall not review the underlying assumptions of each class but will proceed by suggesting that the assumptions of Class III seem to correlate highly to the *modus operandi* of the educational industry and its firms, the local private and public school districts.

Oligopoly describes those market situations in which there are few enough sellers of a particular product, such that the activities of one seller are of sufficient importance to other sellers. Although it may not have been true in the past century, I think we have sufficient evidence to suggest that public elementary and secondary education dominates the field today.

The assumptions of the Class III oligopoly are:

(1) The industry is unorganized and noncollusive. That simply means there are no formal cartel-like arrangements as one would expect in Class I. This designation does not deny the National or State School Boards Associations because they do not transfer management decisions and functions of their individual districts to the central association.

Although I am paralleling the public sector to the private sector, I see no reason for not developing a Class IV which would accommodate professional associations and thus become an organized, noncollusive class of oligopoly.

(2) Independent action of individual firms (school districts) is characteristic. I think we have sufficient evidence of program and policy differentiation between school districts to accept this assumption without explication.

Given the above definition and assumptions, I would further suggest that the education industry is that special case of Class III oligopoly characterized by price rigidity. Therefore, the industry must meet the following assumptions:[14]

(1) The industry is a mature one, either with or without product differentiation.

(2) If one firm lowers price others will follow. Although I do not see school districts cutting the total operational funds so much, I do see them following each other relative to specific economy moves, e.g., closing their doors for part of the school year, eliminating selected programs, etc. And, we have some evidence of taxpayer revolt when we consider the number of bond and millage elections lost over the past 6 or 7 years.

(3) If one firm raises prices, other firms will not follow. Although Mort and his students significantly stimulated expenditures for education within school districts, today I think we experience less acceptance of the assumed cost-quality relationship. And, school boards are increasingly pressured to restrain product cost as evidenced by the accountability debates and the capital outlay example above.

Technically speaking, public school districts do not compete with each other for product production (students) and therefore the latter two assumptions may only be applicable to private education.

Let us proceed now with the demand for resources within an oligopolistic industry. Oligopsony is a resource market situation in which there are only a few buyers of a particular resource which may or may not be differentiated. That is, trained teachers may teach in either the private or public sector of the education industry. The market is further characterized by having one buyer taking such a large portion of the total supply of the resource so that it is able to influence the market price of the resource.

Figure 5 illustrates the supply-demand relationships of the Class III oligopolistic industry. The significant difference between this relationship and the competitive market relationship is the "kinked" demand curve. The "kinked" demand curve is an analytical way of interpreting the Class III oligopoly assumptions. For example, if school districts are faced with a higher per teacher cost they are likely to offer fewer new contracts than they would prefer. And thus they may

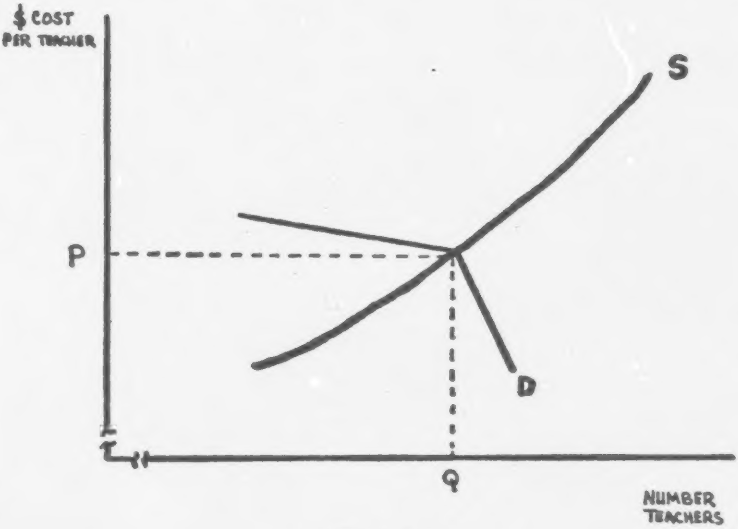

Figure 5
Supply Demand Relationship for Public School Teachers

re-align the districts programming by not initiating new programs, closing marginal programs, increasing pupil-teacher ratios, and other such strategies.

The "kinked" demand curve further illustrates that if cost per teacher unit is less than P, then the district may expand its professional teaching staff by initiating new programs, providing more supplemental services, lowering pupil-teacher ratios, and so forth.

Figure 6 represents an application of the oligopolistic concept to the supply and demand for public elementary teachers for the ten year period 1960 to 1970. The supply-demand relationship was determined by first plotting the long-run supply curve. Then the points of intersection along that curve were correlated with the average elementary teachers salaries for various years. The disconnected demand curves d_1, d_2, and d_3 illustrate the short supply conditions for those years. For example, the conditions at d_1, were such that, at the established price of approximately $5,100 average salary the industry experienced a short supply of elementary teachers amounting to approximately 35,000. This does not mean that approximately 35,000 more elementary teachers were needed in the qualitative sense; only that the industry was seeking that number of trained individuals for declared positions.

Increasing elementary school enrollments and lack of supply response did little to improve the conditions within the next 4 year period (d_2). However, conditions improved somewhat by 1968 (d_3) evidenced by the narrowing of the gap between supply and demand. The final 2 year period closed (d_4) with conditions equilibrated.

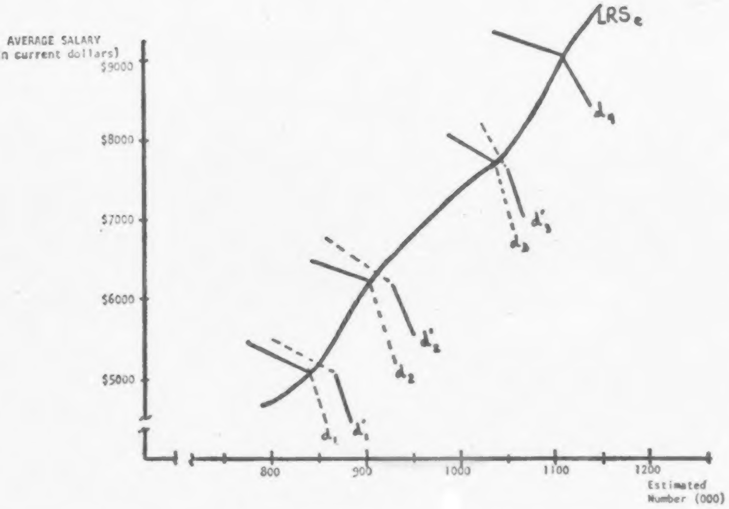

Figure 6
Supply and Demand for Elementary Teachers as a Function of Price
Source: NEA Publications, 1971-R4 & 1973-R8

If the shifting "kinked" demand curve illustrated in Figure 6 seems to parallel the Arrow-Capron analysis presented earlier, it does. The significant difference being the set of assumptions underlying each model and especially the price control assumption of the oligopoly model. I am suggesting that wages in the education industry are overtly controlled rates where Arrow and Capron were suggesting that competitive market forces established the engineer-scientist wage rates. And, unlike the Arrow-Capron analysis to the effect that increases in beginning salaries tend to adjust salaries of all engineers in the long-run; any increases in salaries of beginning teachers immediately adjusts all teachers salaries in the short-run.

Now let me turn briefly to the local school district puzzle.

DEMAND FOR INPUTS PUZZLE

In its simplest form, the overriding constraint facing the production capability of the firm is the total dollars available for production as a function of output costs. That is to say, as in equation (1),

(1) $C = f(0)$,

where, C is total cost and 0 is output costs.

Further, (0) is a function of associated production cost elements including wages, machines, plant, capital, and other. This relationship may be shown as:

(2) $0 = f(W, M, P, C, X)$

where, W = wages, M = machines, P = plant, C = capital, and

X = other.

Combining equations (1) and (2) yields:

(3) $C = f(W, M, P, C, X)$.

Having developed the production function in this manner, the firm proceeds to vary its independent variables (cost elements) such that it maximizes production and minimizes costs.

A similar analysis may be made for the school district. The total dollars available for education (production) in any one time period are a function of federal, state and local revenue sources, and the factors of production likewise include wages, machines, plant, capital, time and other. Thus, at this conceptual level, although we may be considering total cost (C), the condition is equivalent to Thomas' output oriented production function.[15]

It is not uncommon for school district budget-builders to first consider total dollars expected to be available before they engage the often arduous task of programming those dollars toward the associated cost elements. Even those individuals who employ the Zero Based Budgeting techniques have some notion about their expected total revenue throughout the fiscal programming process.

Although it is beyond the scope of this paper to explore the functional relationships between sets of cost elements,[16] the *ceteris paribus* assumption ("other things" being equal) is not being made. Although the indifference mapping suggested earlier is an example of cost variable relationships and trade-off matrices, the purpose here is to establish the context within which one may investigate factors affecting demand for professional educational personnel. Therefore, it is conceded that total revenue dollars in any one time period determines the maximum number of dollars available for professional salaries which are then reduced as a function of decision-makers past and present propensities and requirements to allocate portions of those dollars to other production cost elements.

For purposes of example, let us assume that the cost elements of equation (3) above, for a particular time period, have been dollarized such that we now have the relationship established in equation (4),

(4) $C = W_t + Y$,

where C = total cost of education, W_t = teachers wages and

Y = all other costs.

Therefore, the total dollars available for teachers wages becomes,

(5) $C - Y = W_t$.

In this manner the total dollars available for teachers wages becomes fixed for any given time period. The issues surrounding the establishment of equation (5) and the subsequent analysis below are best mediated by exampling historical data. In this way we do not at this point of development become entangled in the economics of collective bargaining and the decisioning rules applied to cost-element trade-off matrices.

Figure 7 illustrates the relationships established by a particular school district between total cost (C), total instructional wages (I_w) and K-12 teachers wages (W_t) for the period 1964 to 69. Excluded from teachers wages are personnel costs for administration, special edu-

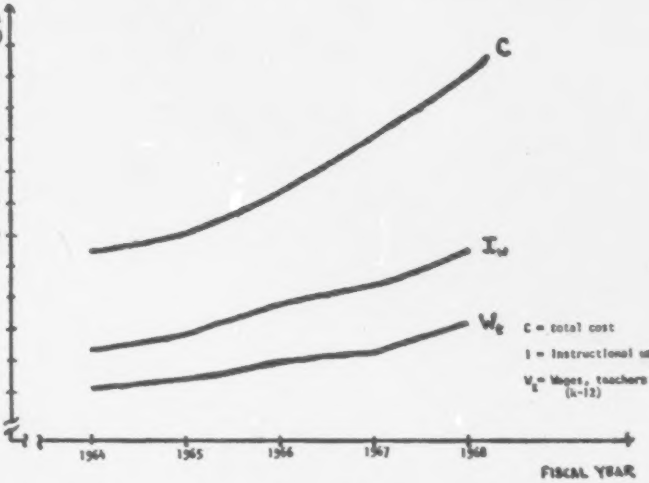

Figure 7
Relationship Between Total Cost, Instructional Wages and K-12 Teachers Wages, 1964-68

cation, vocational education, guidance and other professionals which are reflected in the figure as the difference between I_w and W_t. The difference between C and I_w include costs for support prsonnel, capital outlay, debt service, and other expenses. The example district was allocating approximately 50 million dollars for K-12 regular program teachers salaries in 1964 and over 70 million dollars for those salaries four years later.

At the time the school district was making its preliminary cost calculations for each of the cost elements, it was faced with the supply and demand relationship demonstrated by Figure 8. That is, for 1964 the district could (did) employ approximately 7500 teachers for the K-12 regular program at an average cost of just under $7000. For 1968 the district was employing almost 9000 teachers in the K-12 program at an average cost of approximately $8000. The "kinked" demand curve satisfies the market assumptions and further demonstrates the decision sets one would expect should the average price of teachers increase or decrease in the short-run.

No data were available to me relative to the "shortage" of teachers in the K-12 program for the period used. I do suspect that some shortages did exist for 1964. If that suspicion is correct the demand curve d_1 would be dis-jointed as presented in Figure 6 earlier.

OTHER PUZZLES

I shall not extend this discourse much farther so that we might have some time for discussion purposes. In the introduction it was

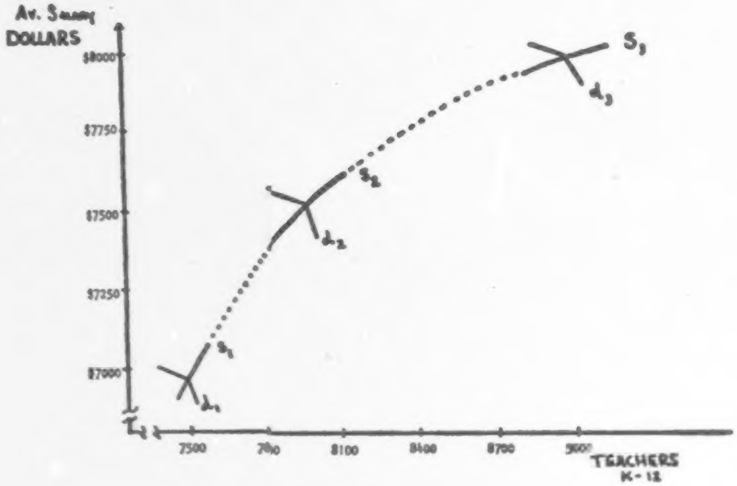

Figure 8
Supply and Demand for Teachers (K-12) in a Particular School District, 1964-68

suggested that the supply-demand relationships for educational personnel facing us today may have some implications for our hiring practices. Certainly it is not naïve to assume that personnel officers and school principals will have an increasing number of applicants for their open positions. In that regard we would expect more selectivity being employed by those individuals. However, the question arises, selectivity relative to what? What professional qualities do we look for in an elementary or secondary teacher? And, if for example, one established criteria suggested by the Burkhead studies[17] and by Levin[18] to the effect that pupil achievement is highly correlated to the teacher's verbal ability, then what will be the courts response to such discriminatory criteria? And, what protectionist provisions might we face in future collective bargaining agreements?

Also, what might be the implications for our teacher-training practices at colleges and universities? Should we, for example, begin limiting our enrollment in teacher training programs? Some would respond with a resounding yes! Others rationalize, as does NEA, that lower pupil-teacher ratios are necessary and projected and thus training should continue; or, we should train to replace the less qualified individuals now teaching or at least cause the less qualified to enter skill development in-service offerings. However, we are also hearing some proposals to allow school districts to certificate their own teaching staff.

I think that I have probably raised more than enough issues for our exploration in the time left, and I'm sure the panels have others. Two decades ago it would have been heresy to examine and critique educational qualities in the manner we do today. And, it places the teacher somewhat in the position that Daniel Webster found himself following the Compromise of 1850, when Whittier wrote about him in his *Icabod* poem:

> So fallen, so lost,
> The light withdrawn which he once wore.
> The glory of his grey hairs gone—
> Forever more, Forever more.

FOOTNOTES

1. Becker, G. S., *Human Capital*, Princeton: Princeton University Press, 1964.
2. Schultz, T. W., "Investment in Human Capital," *American Economic Review*, v. 51 (1961).
3. Hansen, W. L., "Total and Private Rates of Return to Investment in Schooling," *Journal of Political Economy*, v. 81 (1963), n. 2.
4. Weisbrod, B. A., "Education and Investment in Human Capital," *Journal of Political Economy*, v. 70 (1962), n. 5.
5. Bowman, M. J., "The Human Investment Revolution in Economic Thought," *Sociology of Education*, v. 39 (1966).
6. Balogh, T. and P. P. Streeten, "The Planning of Education in Poor Countries," in M. Blaug (ed.) *Economics of Education I*, Baltimore: Penguin Books, 1968.
7. Bowles, S., "A Linear Programming Model of the Educational Sector," in M. Blaug (ed.) *Economics of Education II*, Baltimore: Penguin Books, 1969.
8. Arrow, K. J. and W. M. Capron, "Shortages and Salaries: The Engineer-Scientist Case in the United States," in M. Blaug I, *op. cit.* pp. 318-337.
9. Blank, D. M. and G. J. Stigler, *The Demand and Supply of Scientific Personnel*, New York: National Bureau of Economic Research, 1957.
10. Beste, G. W., "A Case Study of the Shortages of Scientists and Engineers in the Chemical Industry," paper presented at the second meeting of the National Committee for the Development of Scientists and Engineers, June 21, 1956.
11. Benson, C., *The Economics of Public Education*, (1st ed.), Boston: Houghton-Mifflin Co., 1961.
12. Allen, R. G. D., *Mathematical Analysis for Economists*, New York: St. Martin's Press, 1938, reprint 1967.
13. Leftwich, R. N., *The Price System and Resource Allocation*, N.Y.: Rinehart & Co., 1955.
14. *Ibid.*, p. 245.
15. Thomas, J. A., *The Productive School*, New York: John Wiley & Sons, 1971, p. 11.
16. See Thomas' chapter 4.
17. Burkhead, J. *Input and Output in Large City High Schools*, Syracuse: Syracuse University Press, 1967.
18. Levin, H. M., "A Cost-Effective Analysis of Teacher Selection," *Economics of Education*, D. Rogers and H. Richliu (eds.), N.Y.: The Free Press, 1971, pp. 134 ff.

Measuring Productivity in Education

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My remarks today concerning the measurement of school system productivity will be three-fold. First, I will attempt to summarize the research that has recently been done on input-output relationships in school systems. Second, I will describe a methodology that seems inherent in this type of research and describe, hopefully, in layman's terms the statistical techniques utilized in this research and finally I will point out some policy implications that seem to follow from the findings of the research.

INPUT-OUTPUT RELATIONSHIPS

The study of input and output relationships is not new to the American businessman, manufacturer or educator. Business and industry in America have utilized data in these areas for over a century with education becoming more inclined within the last five decades. The definition of output has been difficult for educators because of the complexity of measuring human productivity. Schools have consistently "measured" students with standardized and teacher made tests and have equated this type of productivity with output. Inherent in this assumption is that school system output can best be measured by pencil and paper reporting of its students; that is, educators have not been able to identify other "measureable" means of school system productivity.

Most of the literature relating to school system productivity deals with studies of variables associated with student achievement. Johns and Morphet in 1969 provided an excellent review of studies dealing with the economics of financing education and concluded that a strong relationship exists between student achievement as a measure of quality of education and expense of education. The Michigan Department of Education (1970), having made a comprehensive review of studies reporting on the correlates of school performance, concluded that standardized achievement tests were most used and perhaps the best single measure of output.

Strang (1967) and others have claimed that reading proficiency is not only essential to success in all academic subjects, but that it is "the entrance into almost all vocations." The theory of relationships between reading and other academic subjects is reported by Harris (1962) to have been verified by a number of studies. Success in reading has been correlated with success in problem-solving ability, various forms of oral and written communication, spelling, all ninth grade subjects except mathematics, and with scholastic grade average in secondary schools. Although achievement tests have not been developed for all areas of the school curriculum, the ability to read does affect all areas and tests are available to measure reading.

Measures of School System Input

Most of the research done on school system input-output relationships has concentrated on variables or characteristics that are 1) directly school related or controlled and 2) those considered non-school related variables. School related variables are further classified as teacher oriented, materials and supplies, class size, and characteristics of graduates. Per pupil expenditure as a measure of input encompasses both school and community. The school system is responsible for expending its finances wisely, but is controlled by the community (local, state and federal) as to amount of revenue it receives.

The non-school variables that have been considered in these types of study can be further categorized into 1) socio-economic and 2) community related variables. It is often difficult to classify some variables within one of these two broad categories, but generally those data related in any way to socio-economic status are classified in the former and all others are considered to be the latter.

School Related Variables

Several variables associated with school system input are teacher oriented and have been shown to be related to student achievement: for example, years of teaching experience (Thomas, 1962; Burkhead, 1967; Katzman, 1967; Levin, 1970), teacher verbal ability (Hanushek, 1968; Bowles, 1969; Levin, 1970), teacher salary (Thomas, 1962; Burkhead, 1967; Cohn, 1968; Kiesling, 1969), and teacher certification (Benson and others, 1965). The amount of materials and supplies provided by a school system has been identified as related to student achievement (Fox, 1969; Flanagan and others, 1962; Kiesling, 1967). Some studies are quite specific in naming certain materials and facilities, e.g. science laboratory facilities (Bowles, 1969) and number of books in the school library (Kiesling, 1967). Average class size and pupil-teacher ratio have been shown to be related to student achievement (Mollenkopf, 1956; Thomas, 1962; Bowles, 1969; Kiesling and Averch, 1971). Kiesling (1967) also identified percentage of graduates attending college as related to school achievement.

Project Talent, a massive research effort involving 400,000 high school students, seeking the correlates of a number of pupil outcomes, indicated the most important treatment factors found to date (1967) were: teacher salaries, teacher experience, number of books in the school library and per pupil expenditure. These remained important even when socio-economic factors were held constant.

Teacher quality was found to explain achievement changes for low income children in California. Teacher quality was defined as teachers holding certification, teaching in field, and teacher salary.

Cooper and Bemis (1967) in a study designed to examine teacher personality variation in relation to pupil gains in achievement concluded that teachers who were critical, willing to accept leadership and interested in influencing and persuading others result in pupil gains. These variables of motivation, drive for success, and interest in helping other human beings are illusive measures. In an era of competency based teacher training attention must be given to developing these skills in teachers and assessing them as a part of the competency based skills expected of teachers.

Per pupil expenditures have been cited as contributing to the relationship between school input and output. The more financial resources behind a student, the more academic achievement seems to be produced (Flanagan, et. al., 1962; Kiesling, 1969; Bowles, 1969). There is alternative evidence, as well, showing no relationship between per pupil expenditure and academic achievement (Kiesling, 1968; 1970; Burkhead, 1967; Cohn, 1968). Two recent studies (Rose, 1972; DeRuzzo, 1972) correlated current expenditure per pupil with academic achievement and found very low and non-significant positive correlations.

Lyle (1968) concluded that it takes a great increase in input to gain a small amount of output and that rather than massive spending increases, per se, emphasis should be placed upon input-output studies that yield information on the best combination of services. Thomas (1962) found correlation between levels of resources and mean test scores, but also concluded that the manner in which the money was spent appeared to be more important than the level of expenditure.

Non-School Related Variables

Those variables considered to be socio-economic in nature have been studied in much greater detail in recent years. In justifying culture as a variable Bernard (1965) stated that the "culturally different" youth is lacking in those experiences and skills related to high educational achievement. Educational performance is related to environmental experiences, motivation and self-esteem. The Coleman Report of 1966 was probably the milestone for this type of study and reported that socio-economic variables related more to school achievement than did school variables. The influence of family background was pinpointed as being highly related to student achievement. This study collected data from some 600,000 students in 5,000 schools located throughout the country in both rural and metropolitan areas. Highly correlated with achievement was student attitude, such as his feeling of control over his own destiny, and family background influences. Of the small amount of variation that was attributed to school characteristics, teacher qualities accounted for more than all others taken together.

Criticism has been made of the Coleman Report because of the statistical analysis of the data. Bowles and Levin (1968) contended that once amounts of variation were attributed to socio-economic variables, the attempt to identify the school's contribution to the remaining unexplained variation was of little value. The procedure of holding background variables constant reduced the apparent effect of school variables since school and background variables are intercorrelated. George Mayeske (1968) also criticized the data treatment of the Coleman Report because of the intercorrelated variables. Re-analyzing some of the data, he found school variables more highly correlated to achievement than did Coleman.

Members of the Harvard University faculty initiated a seminar concerning the Coleman report and have widely published and discussed the report. Mosteller and Moynihan (1972) edited a publication which pulled together much of the seminar participants' reanalyses. In general, the results of the re-examination affirmed the overall conclusion of the Coleman Report; that is, what the child brings with him to school is most important. Schools have been able to provide little influence on achievement that has been completely independent of the child's socio-economic background.

Studies other than Coleman (1966) have emphasized the relationship between family income, social class, family background and the school achievement of children (Pareiius, 1967; Burkhead, et. al., 1967; Pierce and Mallory, 1968). As mentioned previously it is difficult to classify as socio-economic or community some of the variables being used. Dunnell and Greene, two separate studies in 1970, speak of socio-economic environment which perhaps marries the two more comfortably than others.

Still another source supporting the influence of socio-economic variables on school performance is Christopher Jencks. In re-evaluating some of the Coleman data Jencks (1972) concludes that schools do almost nothing to close the economic gap between rich and poor. To quote, "The character of a school's output depends largely on a single input, namely the characteristics of the entering children," (p. 53); Jencks challenges the efforts made or proposed by educators to create equal educational opportunity for American school children in the public schools.

In summary, research has been cited to support and in some instances negate the effect of school input variables on student achievement or school output. A greater emphasis has recently been placed on the effect of socio-economic and community related variables on school achievement. Educators are at a strategic point in time as we face the challenge of criticism concerning the effect of the public school system on equating educational opportunity and in producing evidence that our schools are in fact "productive."

IDENTIFICATION OF VARIABLES

Inherent in all input-output productivity studies is the need to identify, quantitatively, those variables that represent the school system in terms of its facilities, faculty, staff, students, as well as the social and economic make-up of the community. Any data available from the Census, state departments of education or other government agencies can be utilized as "input data" if it can be broken out as being demographically consistent.

The question of what is relevant output data remains pertinent. Most studies, as cited earlier, have used achievement data at some particular grade level as the measure of school system productivity. Various forms of achievement data, such as fourth grade reading achievement on the California Achievement Test Battery, fifth grade reading achievement on the Metropolitan Achievement Test, and ninth grade composite score on the School and College Aptitude Test have been utilized in three recent studies completed for the N.E.F.P.

The basic research design employed for these studies has chosen one or more input variables and regressed these against an output variable. The statistical techniques of linear and curvilinear regression analysis have been used to establish the relationship between these variables. Linear regression models assume a moderate to high correlation (.40 to .95) between the two sets of variables before any prediction analyses can be made. If the data do not fit a straight line or linear model, then curvilinear techniques are used to provide a better fit.

Once the regression line is determined and plotted those school districts which fall above the line are considered to be high productive school districts and those which fall below the line are considered to be low productive. Sixth grade reading achievement on the vertical axis was plotted against current expense per pupil on the horizontal axis and a regression line fitted to the data. The 12 districts above the line represented school districts which have produced higher mean sixth grade reading achievement scores than one would predict based upon the current expense per pupil in that district. The inverse was true for the 12 school districts below the line. Based upon their current expenditures per pupil, their mean sixth grade reading achievement was lower than would be expected.

These statements lose their validity when the correlation between the input and output variables approach zero. That is, if the correlation or relationship between the two sets of data is not significant (again .40 to .95), then little confidence can be placed on the categorization of these districts into high and low productivity groups.

When the linear relationship between one input measure and one output measure is low and non-significant, the possibility exists that the relationship may be 1) curvilinear or 2) that a combination of two or more input variables would correlate higher with the one output measure. A linear regression line fit the data very well, however, when a squared term was introduced into the equation, the best fit was determined to be curvilinear, not linear. The measure to determine best fit is the Pearson coefficient of correlation and in an example such as this can be increased substantially by using curvilinear analysis.

When more than two input measures are used in this type of analysis, it is impossible to graphically display with accuracy what the relationship looks like. We would have to talk about planes rather than lines; however, with the aid of the computer three dimensional graphs of the relationships of three variables can be generated for display purposes.

The choice of the input or independent variable when dividing school districts into high and low productive groups is of extreme importance. Unless this measure correlates highly with the output measure, a substantial amount of variation in school achievement among school districts may not be accounted for. Variation or variance, to use the statistical term, is defined as the square of the coefficient of correlation between the two sets of data. The coefficient of correlation $(r) = .71$ between an input and output measure, $r^2 = .50$ or as a percent, 50%. Thus, in this example only one half of the variation in achievement scores among school districts was statistically related to current expenditures per pupil.

An advisable way to choose the one or more input variables to regress against an output measure is to compute all possible interrelationships or correlations of all input and output measures. Find which input variables have the highest correlation with an output measure and at the same time have low intercorrelations among themselves. This can be done with just school related input variables, or with just community and socio-economic variables, or with the entire set of input variables. A question of philosophy arises here. Should one determine high and low productive groups based on input variables that a school system can control, given they have the finances, or based on community and socio-economic variables that a school system cannot control? If the former, one could argue that school variables alone do not consider the one underlying link that completes the chain and that is financial ability of the community to pay for its education. If, on the other hand, high and low productive groups are chosen based on only community variables, then one could argue that the school's wise utilization of what resources it has available is not credited for any effect on the achievement level of the students.

It seems most advantageous to find which input variables, regardless of origin, most highly predict the output measure and to use them judiciously in the regression analysis. One important variable has seemingly been omitted from this type of research, however, and that is time. Benchmark or one-shot data analyses are fine, but should serve only as that. The expectation is that longitudinal analysis will be conducted to show change over time and the trends that undoubtedly occur.

An example of actual data will be used to describe the dividing of school districts into high and low productive groups. These data are from the 67 school systems in Florida where the school system is coterminous with the government entity of county. Of the several output measures available for use, School and College Aptitude Test —Total scores for 1970 were chosen. The Total score is the sum of the Verbal and Quantitative subtest scores. These data were obtained from ninth graders in the spring of the year.

The SCAT-Total score was correlated with 42 input measures representing school related, community and socio-economic variables. Three variables, adult education level of the school district, the percent of non-white students in grades K-12, and family median income in the school district had the highest correlation either positive or negative with the SCAT-Total score. When multiple regression analysis was applied to the variables the adult education level of the school district and the percent of non-white students in grades K-12 accounted for the maximum amount of variance among the output measures. Because of the high correlation between adult education level and family median income, the latters contribution was overridden or masked out by the adult education level variable. The multiple coefficient of correlation was .86 explaining approximately 74% of the variation among the county school systems SCAT-Total scores.

On the average a county having a high mean on the SCAT-Total score also had a high mean adult education level and a low percent of non-white children. Of the difference in county SCAT-Total scores across the state of Florida, 74% of the difference or variation in scores could be related to adult education level of the community and percent of non-white students in the school system.

A partial listing of 1) actual mean SCAT-Total scores, 2) predicted SCAT-Total scores based upon the two input variables adult education level of the county and the percent of non-white students attending school in grades K-12, and 3) the residuals or differences between the actual SCAT-Total scores and the predicted SCAT-Total are shown in Table 1. Residual values bear a minus sign when the actual SCAT-Total score is less than what is predicted (as in district #1) or are positive when the inverse is true (district #2). One asterisk beside the residual value indicates that this district's actual SCAT-Total score was less than its predicted score by more than ½ standard deviation and is placed in the low productive group. Two asterisks indicate the actual SCAT-Total score was higher than its predicted SCAT-Total score by more than ½ standard deviation and is considered a high productive district. The choice of ½ standard deviation for a cut-off is arbitrary. In this study it classified approximately ⅓ of the counties in the high group and ⅓ in the low group. This is consistent with the grouping of a normal distribution which the set of residuals approximates.

The means and standard deviations for each of the remaining 40 input variables were calculated for the high productive districts and the low productive districts. The F statistic was calculated to ascertain any statistical differences between groups on each of the 40 vari-

TABLE 1

MEAN SCHOOL AND COLLEGE APTITUDE TEST SCORES—TOTAL, PREDICTED SCORES, CALCULATED RESIDUALS, ADULT EDUCATION LEVEL AND PERCENT OF NON-WHITE STUDENTS (K-12) FOR 35 FLORIDA COUNTY SCHOOL SYSTEMS

District Number	*Actual SCAT Score*	*Predicted SCAT Scores*	*Residuals (Differences)*	*Adult Education Level*	*Percent Non-White (K-12)*
1	58.35	59.64	−1.29	12.10	5.61
2	56.40	56.20	0.20	11.00	12.77
3	57.03	58.[illegible]7	−1.94*	12.10	9.46
4	56.89	59.25	−2.36*	12.30	10.15
5	53.33	53.03	0.30	11.00	31.19
6	55.93	56.17	−0.24	12.10	25.75
7	49.65	51.34	−1.69*	10.00	29.35
8	48.78	52.18	−3.40*	9.50	18.68
9	53.59	55.04	−1.45*	12.00	31.14
10	53.38	55.55	−2.17*	12.00	28.18
11	54.00	51.97	2.03**	11.20	39.70
12	52.76	52.09	0.67	9.90	23.87
13	41.37	40.73	0.64	8.90	78.18
14	55.14	52.84	2.30**	9.10	10.21
15	46.71	51.14	−4.43*	9.80	28.18
16	53.96	53.55	0.41	10.90	26.97
17	47.02	45.82	1.20**	8.90	48.52
18	55.56	54.32	1.24**	9.90	10.89
19	49.74	53.19	−3.45*	10.40	23.26
20	55.21	54.58	0.63	10.70	18.68
21	54.47	53.78	0.69	11.00	26.83
22	55.49	56.87	−1.38*	11.90	19.37
23	55.02	53.78	1.24**	8.90	2.39
24	56.44	55.74	0.70	12.10	28.22
25	53.59	49.37	4.22**	9.70	37.30
26	43.55	41.34	2.21**	8.80	73.51
27	53.46	51.48	1.98**	8.90	15.75
28	56.73	55.68	1.05	11.70	23.95
29	59.46	57.46	2.00**	12.10	18.28
30	55.81	55.65	0.16	12.60	34.57
31	46.54	50.57	−4.03*	9.90	32.68
32	53.21	50.42	2.79**	8.[illegible]	18.41
33	43.78	44.75	−0.97	9.[illegible]	56.03
34	56.55	56.56	−0.01	12.[illegible]0	23.49
35	53.45	54.01	−0.56	11.60	32.50

ables.

As seen in Table 2 from the Florida productivity study, the input variables of percent of students attending some form of post high school education, the percent of teachers in the school district for two years or less (negative relationship) and percent of teachers in the school district from 7-14 years, were significant contributors to the differences between high and low productive groups.

Two other recently completed studies mentioned earlier used data

TABLE 2

MEANS, STANDARD DEVIATIONS AND CALCULATED F VALUES IN THE HIGH AND LOW PRODUCTIVE GROUPS FOR SELECTED INPUT VARIABLES

Variable Number	*Variable Title*	*Twenty-One High Productive Districts*		*Nineteen Low Productive Districts*		*Calculated F*
		Mean	*Standard Deviation*	*Mean*	*Standard Deviation*	
1	Adjusted Gross Income per pupil (ADA), 1970	$11,558.71	$ 5,393.29	$10,292.10	$ 3,190.36	.79
2	Percent income under $3,000	40.05%	6.00%	37.80%	3.96%	1.90
3	Percent income over $10,000	11.21%	6.22%	10.11%	3.57%	.45
4	Percent ESEA Title I eligible pupils	12.45%	8.86%	8.76%	3.58%	2.86
5	Percent ESEA Title I participants	10.70%	6.75%	9.08%	4.24%	.81
6	Family median income, 1970	$ 6,755.00	$ 1,622.84	$ 7,031.47	$ 1,045.21	.40
8	Percent students non-white (Grade 3)	24.40%	14.79%	22.39%	8.40%	.27
10	Percent of attendance	93.41%	.81%	93.17%	.84%	.90
11	Percent further education, total	53.91%	14.07%	45.10%	10.43%	4.97*
12	Percent further education, college	47.47%	13.32%	39.73%	9.47%	4.40*

TABLE 2—*Continued*

MEANS, STANDARD DEVIATIONS AND CALCULATED F VALUES IN THE HIGH AND LOW PRODUCTIVE GROUPS FOR SELECTED INPUT VARIABLES

Variable Number	*Variable Title*	*Twenty-One High Productive Districts*		*Nineteen Low Productive Districts*		*Calculated F*
		Mean	*Standard Deviation*	*Mean*	*Standard Deviation*	
13	Average daily membership per district	$21,912.86	$28,064.07	$18,236.63	$34,747.90	.14
14	Percent of age 5-13 in public schools	96.63%	3.54%	96.77%	4.25%	.01
15	Transportation cost per pupil in ADA	$ 29.92	$ 15.30	$ 27.57	$ 11.48	.30
16	Local fiscal effort 1970-71	.0237	.0092	.0274	.0134	1.04
17	Population mobility—percent 1960-1970	26.78%	30.26%	31.13%	32.61%	.19
18	Population density—1970	175.39	423.24	99.72	185.97	.52
19	Student mobility—1970-71	84.52%	2.30%	82.96%	2.97%	3.47
20	Student density—1970-71	33.80	69.64	22.81	41.43	.36
21	Percent annual contract (AC) Status 0-2 years	44.97%	10.39%	53.50%	10.89%	6.41*
22	Percent continuing contract (CC) Status 3-6 years	11.24%	5.83%	11.47%	2.78%	.03

23	Percent continuing contract (CC7) Status 7-9 years	8.57%	3.80%	6.00%	2.70%	5.99*
24	Percent continuing contract (CC10) Status 10-14 years	12.54%	3.53%	9.21%	4.33%	7.18*
25	Percent continuing contract (CC15) Status 15+ years	22.67%	11.11%	19.82%	7.40%	.89
26	Percent Rank I Certificate (1971-72)	.60%	.59%	.43%	.57%	.11
27	Percent Rank IA Certificate (1971-72)	.28%	.41%	.36%	.47%	.31
28	Percent Rank II Certificate (1971-72)	25.44%	6.97%	22.90%	5.09%	1.70
29	Percent Rank III Certificate (1971-72)	73.32%	6.60%	75.50%	5.15%	1.33
30	Beginning Rank III teacher salary—1970-71	$ 6,338.09	$ 146.55	$ 6,434.63	$ 267.91	2.05
31	The average teacher salary 1970-71	$ 8,571.66	$ 692.60	$ 8,383.89	$ 578.82	.86

from school systems in Delaware and Kentucky. Rose (1972) who conducted the Delaware study also found that adult education level of the community, teacher experience and preparation, percent of minority enrollment, and percent of high school graduates pursuing further education to be significant contributing variables distinguishing between high and low productive groups of school districts. Rose used reading achievement at the fifth grade level for his measure of output.

DeRuzzo's (1972) study in Kentucky found that the number of economically deprived students in the school district eligible for Title I funds was the best single predictor of school achievement. This again was a negative relationship. Average teacher salary and percent of school budget expended for instructional purposes were the next two highest contributors to a difference between high and low productive districts. DeRuzzo's output measure was fourth grade reading achievement scores.

RESEARCH FINDINGS

Several things can be learned from this type of research. Perhaps most important is that educational achievement and attainment in our public school system is not as completely dependent upon socioeconomic factors as current sociologists would have us believe. School related variables of teacher experience, training and maturity *do* relate and account for a substantial amount of the variance in the achievement of school children.

Those currently pursuing this type of research are upon the threshold of ascertaining more clearly and concisely those attributes held by teachers that positively effect achievement in children. There are teacher qualities of attitude toward profession, attitude toward children, and commitment to the profession that need to be assessed and used in these analyses. The quality of performance and the best teaching style to produce the maximum amount of learning for a particular group of learners are but two more of the areas that need attention. Robert Soar in 1972 documented that higher level cognitive growth in children is produced by a different teaching style than lower level cognitive growth. This implies perhaps that the generalist concept of teacher training for the early grades may need to be reconsidered. Or, prospective teachers need to develop a variety of teaching styles for teaching children at the various levels of the cognitive taxonomy.

I think the lay public needs to be critical of educational performance. They need to stir us to act, to seek out better ways to teach all children. I can offer no excuse why nationally only approximately 70% of our "Johnies can read." Nor, on the other hand, am I convinced that our schools today should be just a "nice place to be."

This type of research suggests a compromise between the adamant critics and professional educators. A host of research (Gordon, 1969; Gray, 1971; Hess, *et. al.*, 1968; and Schaefer, 1969) supports the concepts that the educational experiences received at the pre-school level are the most critical of any stage in development. If the input of systematic learning experiences for this age group can produce successful output measures and these can be documented on a longitudinal basis, then serious consideration should be given to publicly supporting pre-school education. If the evidence is sufficient to say that children bring to school those experiences (or lack of experiences) that destine their educational achievements, then the public should be willing to support free public education for three and four year old children.

Finally, from a research and statistical point of view, the methodology by which we study input-output relationships needs to be improved. The use of path coefficients, canonical correlations, and cluster analysis should enhance the usefulness and significance of the data. A closer look at various econometric techniques should also improve our schema for educational productivity studies. The productivity of a school system is reflected in its students, both in number and in quality, who in turn as graduates determine to a large extent the productivity of the community. The people of the community in turn have children who enroll in the school system to complete the cycle. Measurements need to be taken at all points on this continuum so as to account for the totality of relationships and timing of inputs. Low achievement scores in a school may reflect the value system of the adults in the community, not the school faculty or its facilities.

The procedures described here can be used at the school or system level as well as at the state level. This was substantiated yesterday in the presentations of Bill McClure and Dick Rossmiller. Providing the best way to spend the educational dollar remains a high priority.

The use of input-output relationship research remains a feasible way to provide a dynamic model for decision making. School related variables of teaching styles, delivery systems, teacher attitudes and motivation, as well as others, should be studied more closely to determine the maximum output for x numbers of dollars expended. A decision model based on reliable and specific program data can be the most useful tool an administrator can use.

To summarize, the research to date implies that teacher professional maturity relates to high student achievement. Or its corollary, school systems having high teacher turnover within the first two years have lower student achievement. The educational dollar can perhaps be well spent in a salary schedule that provides incentive for the professional teacher to stay in the system. Second, the research implies that high adult education level in the district is related to high student achievement. Perhaps the educational dollar can be well spent on improving the educational level of the adults in the community. The apparent spinoffs of such an educational program could affect the pre-school children and help resolve my earlier concern of public supported education for three and four year olds.

Finally, the research implies that the higher the percentage of non-white student enrollment in grades K-12, the lower the achievement. Should the educational dollar be spent on busing to equalize this ratio or should school funds be allocated to school systems based upon their ratio?

REFERENCES

Averch, Harvey and Herbert J. Kiesling. *The Relationship of School and Environment to Student Performance: Some Simultaneous Models for the Project Talent High Schools*. The Rand Corporation. Santa Monica, California, 1971.

Benson, Charles S. and others. *Report of the Senate Fact Finding Committee on Revenue and Taxation, State and Local Fiscal Relationships in Public Education in California*. Sacramento, California; Senate of the State of California, 1965.

Bernard, Harold W., *Psychology of Learning and Teaching*. New York: McGraw-Hill Book Co., 1965.

Bowles, Samuel S. and Levin, Henry M. "The Determinants of Scholastic Achievement. An Appraisal of Some Recent Evidence," *The Journal of Human Resources*, Vol. 3: No. 1, pp. 3-24 (Winter, 1968).

Bowles, Samuel, *Educational Production Function*, Final Report. U.S. Department of Health, Education, and Welfare, U.S. Office of Education. OEC-1-7-00451-2651, ED 037 590, Harvard University, Cambridge, Mass., February, 1969.

Burkhead, Jesse; Fox, Thomas G. and Holland, John W. *Input and Output in Large-City High Schools*. Syracuse, New York: University Press, 1967.

Coleman, James S. and others. *Equality of Educational Opportunity*. Washington, D.C.: U.S. Department of Health, Education and Welfare, Office of Education, 1966.

Cooper, James G. and Bemis, Katherine. *Teacher Personality, Teacher Behavior and Their Effects Upon Pupil Achievement, Final Report*. Albuquerque, New Mexico: New Mexico University, 1967. Cited in *Education Research Information Center*, microfilm number ED 012707.

DeRuzzo, David. "Identification of Variables to Predict Local School District Productivity." Ed.D. Dissertation, University of Florida, 1972.

Dunnell, John Peter. "Input and Output Analysis of Suburban Elementary School Districts." Ed.D. Dissertation, Illinois State University, 1970. Cited in *Dissertation Abstracts International*, 31:1532A.

Flanagan, John C. and others. *A Survey and Follow-up Study of Educational Plans and Decisions in Relation to Aptitude Patterns: Studies of the American High School*. Pittsburgh: University of Pittsburgh, 1962.

Fox, Thomas G., "School System Resource Use in Production of Interdependent Educational Outputs," *The Joint National Meeting, American Astronautical Society and Operations Research Society*, paper presented at Denver, Colorado, 1969 (mimeo.)

Gordon, I. J. and Associates, eds. "Reaching the Child Through Parent Education: The Florida Approach." Institute for Development of Human Resources, College of Education, University of Florida, Gainesville, Florida, February, 1969.

Gray, S. W. "Home Visiting Programs for Parents of Young Children." *Peabody Journal of Education*, January, 1971, 106-111.

Greene, Robert Taylor. "An Analysis of the Relationships of Selected Factors to Academic Achievement of Pupils." Ed.D. Dissertation, University of Virginia, 1970. Cited in *Dissertation Abstracts International*, 31:4416A-4417A.

Hanushek, Eric A., *The Education of Negroes and Whites* (unpublished Ph.D dissertation, microf.), Massachusetts Institute of Technology Libraries, Cambridge, Massachusetts, 1968.

Harris, Albert J. *How to Increase Reading Ability*, Fourth Edition, New York: David McKay Co., Inc., 1962.

Hess, R. D. and et al. *The Cognitive Environments of Urban Preschool Children*. Report to Children's Bureau, Social Security Administration, U.S. Department of Health, Education and Welfare, 1968.

Jencks, Christopher. *Inequality, A Reassessment of the Effect of Family and Schooling in America*. New York, New York: Basic Books, Inc., 1972.

Johns, Roe L. and Morphet, Edgar L. *The Economics and Financing of Education, A Systems Approach*, Second Edition, Englewood Cliffs, New Jersey: Prentice-Hall, Inc., 1969.

Katzman, M. T., *Distribution and Production in a Big City Elementary School System*, Yale University Library, New Haven, Conn. (unpublished Department of Economics Ph.D. dissertation).

Kiesling, Herbert J., *The Relationship of School Inputs to Public School Per-*

formance in New York State, The Rand Corporation, P-4211, Santa Monica, California, October, 1969.

Kiesling, Herbert J. "Measuring a Local Government Service: A Study of School Districts in New York State." *Review of Economics and Statistics*, Vol. 49: No. 3, pp. 356-367 (August, 1967).

Kiesling, Herbert J. *High School Cost Factors*, U.S. Department of Health, Education, and Welfare, Office of Education, Final Report DEC-3-7-061590-0372, Washington, D.C., March, 1968, pp. 1-134.

Kiesling, Herbert J., *A Study of the Cost and Quality of New York School Districts, Final Report*, Bloomington, Indiana, Project No. 8-0264, U.S. Department of Health, Education and Welfare, U.S. Office of Education, Washington, D.C., 1970.

Levin, Henry M., "A New Model of School Effectiveness." *Do Teachers Make a Difference?* U.S. Department of Health, Education, and Welfare, U.S. Office of Education, OE-58042, Washington, D.C., 1970.

Lyle, Jerolyn R. Research on Achievement Determinants in Educational Systems: A Survey. National Center for Educational Statistics, Division of Operations Analysis. Washington, D.C.: U.S. Department of Health, Education, and Welfare, Office of Education. Cited in *Education Research Information Center*, microfilm number ED 018858, 1968.

Michigan Department of Education. *Research Into the Correlates of School Performance, A Review and Summary of Literature*, Assessment Report No. 3, 1970.

Mayeske, George W. and others. "Correlational and Regression Analysis of Differences Between the Achievement Levels of Ninth Grade Schools from the Educational Opportunities Survey." Washington, D.C.: National Center for Educational Statistics, 1968 (mimeographed). Cited in *Education Research Information Center*, microfilm number ED 037398.

Mollenkopf, William G., *A Study of Secondary School Characteristics as Related to Test Scores*, Research Bulletin RB-56-6, Educational Testing Service, Princeton, New Jersey, 1956

Mosteller, Frederick and Moynihan, Daniel P., editors. *On Equality of Educational Opportunity*. New York: Vintage Books, 1972.

Parelius, Robert James. *Sociological Influences on the Achievement of Lower Class Negro Children*. Washington, D.C.: U.S. Department of Health, Education and Welfare, Office of Education, November, 1967. Cited in *Education Research Information Center*, microfilm number ED 016730.

Pierce, Louise and Mallory, Richard. *Analysis of Achievement Project Design*, Interagency Planning for Urban Educational News, Number 5, Fresno City Unified School District, California. Washington, D.C.: U.S. Department of Health, Education, and Welfare, Bureau of Elementary and Secondary Education, Office of Education October, 1968. Cited in *Education Research Information Center*, microfilm number Ed 039747.

Rose, Scott N. 'A Study to Identify Variables to Predict Local School District Productivity in Two States." Ed.D. Dissertation, University of Florida, 1972.

Schaefer, E. "Home Tutoring, Maternal Behavior, and Infant Intellectual Development." Symposium paper presented at the American Psychological Association Annual Convention, Washington, D.C., Sept. 1969.

Strang, Ruth; McCullough, Constance M. and Traxler, Arthur E. *The Improvement of Reading*. Fourth Edition. New York: McGraw-Hill Book Co., 1967.

Thomas, James A. "Efficiency in Education: A Study of the Relationship between Selected Inputs and Mean Test Scores in a Sample of Senior High Schools." Ph.D. Dissertation. Stanford University, 1962. Cited in *Dissertation Abstracts*, 13:4203.

The Constitutionality of the Title I ESEA Formula: Inverted and Regressive Allocations

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In the case of *Downs v. Marland,* which is now pending in the United States District Court, Western District of Kentucky, at Louisville, the Plaintiffs are school age children from a low-income family, who, with their mother, are seeking a declaratory judgment restraining the U.S. Commissioner of Education from unconstitutionally allocating and distributing funds under Title I of the Elementary and Secondary Education Act of 1965, 20 U.S.C. 241a. The children and their mother maintain that the formula under which Title I is allocated to the various states is discriminatory and is unconstitutional as being violative of the Due Process Clause of the Fifth Amendment.

Title I was enacted in 1965 with the purpose of expanding and improving educational programs for educationally deprived children. That Act provides for financial assistance

> "to local educational agencies serving areas with concentrations of children from low-income families to expand and improve their educational programs by various means . . . which contribute particularly to meeting special educational needs of educationally deprived children." 20 U.S.C. 241a

The purpose of the Act is therefore to provide federal financial assistance for the education of educationally deprived children. These children are uniformly identified as children from low-income families.

The purpose of the Act certainly constitutes a valid governmental purpose and is not in contest in the case of *Downs v. Marland.* The constitutional question arises from the method by which funds are allocated among the states to effectuate the stated purpose of the Act.

Title I provides for funds to be allocated among the states in the following manner:

> "[T]he maximum grant which a local educational agency in a State shall be eligible to receive under this part for any fiscal year shall be . . . *an amount equal to the Federal percentage* (established pursuant to subsection (c) of this section) *of the average per pupil expenditure in that State or, if greater, in the United States, multiplied by the number of children in the school district of such agency who are aged five to seventeen, inclusive, and are (A) in families having an annual income of less than the low-income factor.* (established pursuant to subsection (c) of this section), (B) in families receiving annual income in excess of the low-income factor (established pursuant to subsection (c) of this section) from payments under the program of aid to families with dependent children under a State plan approved under Title IV of the Social Security Act or (C) living in institutions for neglected or delinquent children (other than institutions operated by the United States) but not counted pursuant to paragraph (7) of this subsection for the purpose of a grant to a State agency, or being supported in foster homes at public funds. 20 U.S.C. 241c(a)(2)(emphasis added)

The Federal percentage in subsection (c) is fifty percent and the low-income factor provided in the same subsection is $3,000 for the fiscal year ending June 30, 1973.

More simply stated, the formula provides for grants to states based on the number of educationally deprived children (children from families with $3,000 annual income or less) times fifty percent of the average per pupil expenditure of either the state or the United States, whichever is greater.

The net effect of this formula is that although it identifies an educationally deprived child in Kentucky in the same manner as it identifies a similar child in New York, it nevertheless grants substantially more funds to the educationally deprived child in New York. The child with the same educational needs such as the Plaintiffs in *Downs v. Marland,* from Marion County, Kentucky, is given much less federal assistance than his counterpart in the wealthy state of New York, thereby violating the Due Process clause of the Fifth Amendment.

THE ISSUE

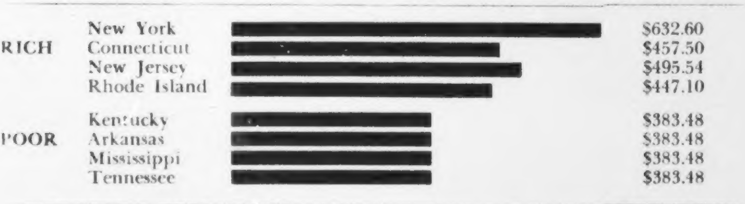
The issue raised in *Downs v. Marland,* simply stated, is whether the United States Congress, through the Title I formula, can constitutionally provide the educationally deprived child in the wealthy high expenditure state with greater resources than the educationally deprived child in the poor, low expenditure state of Kentucky.

The Plaintiffs in *Downs v. Marland* did not seek to require the Congress to fiscally equalize by providing more funds to educationally deprived children in the poor, low expenditure states than in the wealthy, high expenditure states, but merely demanded that the Court declare that the Title I formula be declared unconstitutional because of its effect of disequalizing among the children by distributing more funds per targeted child to the wealthy states than to the poor states. In other words the Plaintiffs, in *Downs v. Marland,* as educationally deprived children, from the poor, low expenditure state of Kentucky, sought only to be provided the same Title I resources as other educationally deprived children living in wealthy, high expenditure states. The Plaintiffs therein, on behalf of themselves and as a class action, for and on behalf of all the Kentucky school children similarly situated, contended that they are discriminated against by the Title I allocation formula simply because they resided and attended school in a relatively poor state.

EFFECTS OF THE FORMULA

To fully fund the Act to its maximum authorization for all states would create the following disparities between selected rich and poor states.

Chart I
Maximum Title I Authorization to Local Education Agency
Per Educationally Deprived Child for 1972



The Bureau of the Census for 1971 has calculated the per capita personal income of the following selected states:

New York	$5,021
Connecticut	5,032
New Jersey	4,832
Rhode Island	4,077
Kentucky	3,288
Arkansas	3,036
Mississippi	2,766
Tennessee	3,325

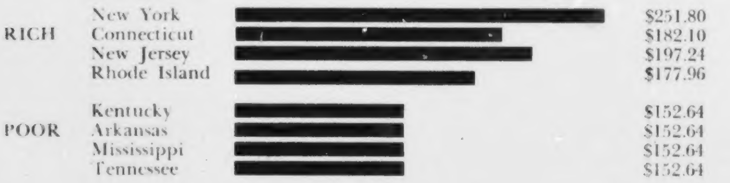
(U.S. Bureau of Economic Analysis *Survey of Current Business.* August, 1971)

For the U.S. Congress in 1972 to have fully funded the program as authorized would have resulted in the wide disparities indicated in Chart I. New York would have received $249.12 more per educationally deprived child than would any of the poorer states whose expenditures were at the national average or below. New Jersey, under the formula, would have received over $112 more per deprived child than the poorer states. In the *Downs* case the Plaintiffs therein acknowledged that comparing states' maximum authorizations may be somewhat illusory since Congress seldom, if ever, appropriates the maximum authorization. Chart I, nevertheless, indicates the precise effect and impact of the formula as the law prescribes, excluding temporary amendments and appropriation limitations.

When the state per child formula allotments are compared using actual appropriations and excluding temporary amendments, the poor states again receive proportionately much less than the wealthy states. (See Chart II for comparisons)

CHART II

AMOUNT APPROPRIATED FOR TITLE I LOCAL EDUCATION AGENCY GRANTS PER EDUCATIONALLY DEPRIVED CHILD (WITHOUT TEMPORARY AMENDMENT) 1972



Charts I and II show the true effect of the Title I allocation formula indicating that in using either fully authorized funding or the actual appropriation, the educationally deprived children in wealthy states receive substantially more funds than do the same children in poor states. According to the Title I formula the state of New York would receive $99.16 more per educationally deprived child than the state of Kentucky. As one can readily see, this amount per targeted pupil is not a mere "mathematical nicety." The difference represents about 65 percent of Kentucky's entire Title I allotment per educationally deprived child. The educational importance of this wide variation in per child allocation can be better illustrated by noting that for a classroom of 25 educationally deprived pupils there is a variation in allotments of some $2,475 per year. This much additional money can be the difference between an enriched and an inferior educational program. The disparity created by the Title I formula represents a financial deprivation for the targeted children in Marion County, Kentucky, of no less than $143,000 per year. For the five Downs children alone, the formula provides over $495 per year less than for the same five children if they were attending school in the state of New York. If all the 226,878 educationally deprived children in Kentucky were valued the same by the formula as the educationally deprived children in New York, the state of Kentucky would receive an additional Title I allocation of over $22.4 million.

The actual amounts appropriated per Title I child during fiscal year 1972 do not present a true picture of the formula under contest in the *Downs* case. Although is is acknowledged that this was the amount actually allocated, the variations among states are measurably reduced by a one-year temporary "fail safe" clause to prevent states with out-migration of educationally deprived children from receiving less than they received in a designated base year. That amendment is not continuing, and was, in fact, attached to the Appropriations Act and not the body of the Title I formula.[1] However, even with the Amendment, the educationally deprived child in New York is given $81 more than the same educationally deprived child in Kentucky.

THE TITLE I FORMULA IS NEITHER COMPELLING NOR RATIONAL

In the *Downs* case the Plaintiffs contend that the government, under Title I, has no rational basis to treat these Plaintiffs differently from their counterparts in wealthier states.

THE RATIONAL RELATIONSHIP STANDARD

The government, in *Downs*, in defense of the Title I formula claims that the "rational relationship" standard should be applied instead of the compelling interest standard. This standard merely provides that the classification must be reasonable and must fairly and substantially relate to the object of the legislation.

I. The Title I Formula Has No Rational Relationship to the Expressed Purpose of the Act.

In defense of the Title I formula, the government claims that the rational relationship standard should be applied instead of the compelling interest standard. It is the contention of the Downs children, however, that the method of allocation used in Title I is not reasonably related to the purpose of the Act and cannot even withstand the lesser requirement of rational relationship.

Aid provided by the federal government to educationally deprived children is not a "gift" nor a " "privilege" which the government can grant, take away, or treat the recipient unequally. Not only will the Courts prevent the government from being a "Indian giver" but also they will restrain the government from being unfair in the distribution of its revenues. This is to say, that once the government has undertaken to provide a distribution of funds, the recipients thereof are entitled to them as a matter of "right." *Goldberg v. Kelly*, 397 U.S. 262 (1970); *Shapiro v. Thompson*, 394 U.S. 618 (1969); *Sherbert v. Verner*, 394 U.S. 398 (1963); *Slochower v. Board of Higher Education*, 350 U.S. 551 (1956). All children in the designated class are entitled to that same right—under the holding in *Slochower*, supra.

With the declaration of policy set forth in Title I, the Congress assumed a responsibility for the education of educationally deprived children in all states. The Congressional Declaration of Policy stated:

> "In recognition of the special educational needs of children of low-income families and the impact that concentrations of low-income families have on the ability of local educational agencies to support adequate educational programs, the Congress hereby declares it to be the policy of the United States to provide financial assistance to local educational agencies serving areas with concentrations of children from low-income families to expand and improve their educational programs by various means which contribute particularly to meeting special educational need of educationally deprived children." 20 U.S.C. 241a

Pursuant to the purpose of educating educationally deprived children, the Congress identified these children uniformly, as a class, among all the states by designating a family low-income factor, 20 U.S.C. 241c (c). The Congress thereby created a special and discrete class of children to whom the benefits of Title I were to accrue. This classification is obviously reasonable and rationally related to the purpose of the legislation. However, Congress at this point, after specifically naming and identifying a discrete class of children, perniciously created an allocation formula which treats equals unequally. In *Reynolds v. Sims*, 377 U.S. 533 (1964), the Supreme Court stated that: "The concept of equal protection has been traditionally viewed as requiring the uniform treatment of persons standing in the same relation to the government action questioned or challenged." By Congress itself identifying the group of children to be aided, a primary error in *San Antonio v. Rodriguez*, as observed by Justice Powell noting a lack of a discrete class, is removed from *Downs*.

There can be no doubt that the educationally deprived children under Title I stand in the "same relation" to the government because the Congress has specifically identified the class and the persons to be included in the class, 20 U.S.C. 241c (a)(B)(2). However, Congress thereafter enacted an allocation formula which treated that same class unequally. To treat persons standing in the same relation to government unequally was held unreasonable by the Supreme Court as early as 1920 in *Royster Guano Co. v. Virginia*, 353 U.S. 412, when it stated that a classification "must be reasonable, not arbitrary, and must rest upon some ground of difference having a fair and substantial relation to the object of the legislation, so that all persons similarly circumstanced shall be treated alike."

In 1971, the Supreme Court, applying the same rational relationship standard, held an Idaho statute unconstitutional because two persons, standing in the same relation to government, were treated unequally—*Reed v. Reed*, 404 U.S. 71 (1971). Therein, the Court applied the rational basis test to Idaho's legislation which provided that "males must be preferred to females" in the designation to persons to administer intestate estates, 404 U.S. 76. The Court held that the Idaho statute violated the Fourteenth Amendment based on sex discrimination in that disputes over administration of the estate of one who dies intestate could be eliminated by some other statute or plan without the necessity of relying upon an arbitrary classification by sex. In *Reed v. Reed*, the Court applied a less stringent test than the "compelling interest" test. This less stringent test, or reasonable basis test, was used to strike down discrimination of a fundamental right—the right to be free of sex discrimination. Here, Justice Burger stated that the Idaho legislation had no relationship to the objective of the statute. Further, the Court stated:

> "In applying that clause [equal protection], this court has consistently recognized that the Fourteenth Amendment does not deny the States the power to treat different classes of persons different ways. (citations omitted) The equal protection clause of that Amendment does, however, deny the States the power to legislate that different treatment be accorded to different persons placed by statutes into different classes on the basis of criteria wholly unrelated to the objective of that statute." supra.

As in *Reed*, Title I identifies and creates a class of persons standing in the same relation to government and then through the allocation formula treats them unequally. What relationship to purpose does the granting of Title I funds to a poor eligible child in the wealthy state of New York have when the basic and fundamental education needs of a poor eligible child in the relatively poor state of Kentucky are greater? What relationship does the formula of Title I have to the objectives provided in 20 U.S.C. §241a "Congressional Declaration of Policy"? The above policy certainly is inconsistent with the formula. A strong argument can be stated that the formula is inverted and regressive and rather than being based on wealth, the formula should be based on need. However, the case of need has not been contended by the Plaintiffs in *Downs v. Marland*.

For instance, the defendants in *Downs* would assert that there is no question of the existence of some discrimination or variation or disparity, but applying *Lindsley v. Natural Carbonic Gas Co.*, 220 U.S. 61 (1911), a comparison is made between education involved in this case and the New York statute enacted to safeguard the natural mineral springs against waste and impairment. Therein, the Gas Company was engaged in collecting and vending as a separate commodity the carbonic acid contained in natural mineral waters existing in a common underground reservoir.

The Court in *Lindsley* held that the landowner was not deprived of any rights secured through the Fourteenth Amendment by the New York Statute prohibiting the extracting of carbonic acid gas.

> "[T]he statute is directed against pumping from wells bored or drilled into the rock, but not pumping from wells not penetrating the rock, and . . . it is directed against pumping for the purpose of collecting the gas and vending it apart from the waters, but not against pumping for other purposes . . ." supra at page 78.

The gas company contended that the statute was arbitrary in its classification and therefore it was denied the equal protection of the laws to whom it affects. The court held that the Fourteenth Amendment does not take from the state "the power to classify in the adoption of police laws," supra at page 79.

The Court in *Lindsley* listed four tests in determining whether the classification was purely arbitrary in "such a case," supra. It would be shallow if we failed to grasp the meaning of the phrase "such a case." The Court was speaking of the right of the state to classify in police power cases. There were no mechanics involved or discrimination intended at a targeted group of school children of our nation. The Court concluded that the classification was reasonable because it "may rest upon some substantial difference between pumping from wells penetrating the rock and pumping from those not penetrating it . . . and this difference may afford a reasonable basis for the classification." supra.

Besides, said the Court: "The allegations of the bill shed but little light upon the classification in question," supra.

In *Lindsley*, the Fourteenth Amendment was in issue over a statute which fell within the police power of the State of New York. In *Downs*, the Court is dealing with a federal statute which does not cover an entire classification of children. It covers a targeted group, a situation much different from that of *San Antonio v. Rodriguez* as well as *Lindsley*. It attempts to assist local school children by identifying a specific group of children (ages 5 to 17 in families having an annual income of less than $3,000) and apply a formula for distributing Title I funds.

Under the circumstances in *Lindsley*, the Plaintiffs in *Downs* would be the first to agree that the application of the reasonable basis test was appropriate.

Dandridge v. Williams, 397 U.S. 471 (1970) is cited by the defendants in *Downs* and the following particular language has been pinpointed by the defendants therein:

> "In the area of economics and social welfare, a state does not violate the Equal Protection Clause merely because the classifications made by its laws are imperfect." 397 U.S. at page 485

To begin with, the Plaintiffs in *Downs* have contended that *Dandridge* is not applicable to their cases because education *is* of greater import and *has* been of great import to the Supreme Court than cases involving welfare payments—compare *Brown v. Board of Education*, 347 U.S. 483 (1954) with *Jefferson v. Hackney*, 406 U.S. 535 (1972).

In *Dandridge*, the State of Maryland enforced a regulation which limited or imposed an overall ceiling of $250 per month as the total amount of welfare assistance any one family unit could receive under its aid to families with dependent children program (AFDC). As a result, while most families received benefits sufficient to meet their state-defined standards of need, the large families (whose needs exceeded $250 per month) received less than their computed need.

The Plaintiffs in *Dandridge* successfully attacked the Fourteenth Amendment initially but were reversed by the Supreme Court which held that the maximum grant regulation did not violate the Fourteenth Amendment because it was of a social and economic nature and therefore could be reviewed only under "traditional standards of restrained equal protection review." The Court stated that "a statutory discrimination will not be set aside if any state of facts reasonably may be conceived to justify it," supra.

But the Court went further. Justice Stewart recognized the difference between the regulation of business and welfare and, although he refused to apply a different constitutional standard, he thought the regulation was attempting to relieve the "disincentive to work" however imperfect. In the Court's opinion this made the Maryland regulation reasonable.

For the first time the Court in *Dandridge* had now decided a case involving maximum grant legislation or regulation. And in this regard, the Court held that since the focus of the act was on the *family unit rather than on individual dependents* eligible children born into families receiving a maximum grant were not excluded from coverage but were merely forced to share the same benefits with other household members. The Court stated at page 484, n.16 that the *"strict review test applied to a constitutionally protected freedom."*

Therefore, the Court's primary point of law was to indicate that the reasonable basis test was used to uphold the Maryland regulation because there was no discrimination of the family unit which was the principal object of the regulation. In other words, each family unit so designated under the regulation received the maximum of $250. The focus of the regulation had nothing to do with an individual's needs and there could be no discrimination against families because each family unit was treated equally.

In *Downs v. Marland*, there is a wide difference between the discrimination alledged by the Plaintiff in *Dandridge* and that practiced by the government through the use of the formula in Title I. Not only does Title I identify a targeted age group of children but also it classifies a certain group within those age limits and on a low-income factor which is $3,000. After the targeted group is identified its members received different benefits because of *where* they happen to live. Under that formula a poor child is much better off in the State of New York than he would be in the State of Kentucky in terms of recipient power.

The *Dandridge* Court simply bought the defendant's argument and applied the reasonable and rational test and found affirmatively that (1) the needs of the maximum provisions encouraged gainful employment; (2) maintained the balance between welfare families and the wage earner; (3) encouraged family planning; (4) allocated public funds in a manner which would meet the needs of the largest number of families; and (5) treated all family units precisely the same or equally in the maximum grant range.

Dandridge is markably different from *Downs* for several reasons: First, the unit of classifications utilized by the State of Maryland was the family unit but, secondly, and probably more important, the Maryland regulation was involved with the vague standard of need concept which suggest a lack of "judicially manageable" standards. Appropriate standards of need are illusive and the courts have been traditionally hesitant to substitute their judgment on an area as vague as welfare or educational needs, *McInnis v. Shapiro*, 293 F.Supp. 327 (1968) affirmed, 394 U.S. 322 (1969).

In *McInnis* children from school districts of better than average wealth sought more funds than children in other school districts because of an alledged greater educational need. The Court therein held that there were no "judicially manageable" standards on which it could rely to provide more funds to children in one district than in another.

The issues in both *Dandridge* and *McInnis* are, therefore, basically different from the issues raised by the Downs children. In both of those cases the Plaintiffs asked the Court to hold statutes unconstitutional because the Plaintiffs did not receive more funds than their counterpart *in the same classification*. The issue of need was not raised in *Downs*. Therein, the Plaintiffs only pled to be treated equally with other children within the same classification.

Although redundant, it is important to bear in mind the equality standard which the Court focused on in *Dandridge* and similar standards upon which the Plaintiffs requested relief in *Downs*. The constitutionality of the formula under Title I is an issue in *Downs* and in order to apply the correct standard for judging this formula, the Court should consider whether the formula classifies the amount a child receives by the wealth of the state he happens to reside in. In *Dandridge* the entire group of individuals eligible for welfare were poor. The Plaintiffs in *Dandridge* were merely attacking the limitations on large families to a basic monthly allotment without consideration given to the number of people in the family unit. But in *Downs*, the Congress created the statute which admittedly discriminates (but according to the government, "not substantially"). In *Dandridge* the State of Maryland had no role in the creation of large families which was the element which led the plaintiffs to complain. And yet, the element which brought the plaintiffs in *Downs* to the bar of justice was born of our Congress and thrust upon a disadvantaged minority through the Title I formula. The class effected could not prevent the results of discrimination, as could the effected class in *Dandridge*, said the Court therein. Justice Stewart recognized in *Dandridge* that education is not completely an economic and social welfare issue:

"[H]ere we deal with a state regulation in the social and eco-

> nomic field, not affecting freedoms guaranteed by the Bill of Rights that claims violate the Fourteenth Amendment only because the regulation results in some disparity in grants from welfare payments to the largest AFDC families." *Dandridge v. Williams*, 397 U.S. 471 at page 484

In a dissenting opinion, Justice Marshall indicated that he was grateful that the majority was protecting all of the fundamental interests of the plaintiffs therein and that he was sure that all the plaintiffs had to worry about thereafter was merely the acquiring of enough funds for basic needs of clothing, shelter and food!

In *Richardson v. Belcher*, 404 U.S. 78 (1971) the Court applied the rational basis test citing the *Dandridge* case, upholding the constitutionality of the disability provisions of the Social Security Act which were reduced because the Plaintiff there was a recipient of State Workmen's Compensation benefits. The Plaintiff alledged that this was unconstitutional denial of the due process rights under the Fifth Amendment.

The government in *Richardson v. Belcher*, supra, defended the practice as being reasonable and rational because without the offset, a typical worker injured in the course of his employment would receive benefits in excess of his take home pay prior to his disability. The government contended that such a situation enduced the worker to become non-employable.

The Court states at page 79:

> "If the goals sought are legitimate, and the classification adopted is rationally related to the achievement to those goals, then the action of Congress is not so arbitrary as to violate the Due Process Clause of the Fifth Amendment."
> "While the present case, involving as it does the federal statute, does not directly implicate the Fourteenth Amendment Equal Protection Clause, the classification that meets the test articulated in *Dandridge* is perforce and consistent with the Due Process requirement of the Fifth Amendment." (citing *Bolling v. Sharpe*, 347 U.S. 497 [1954]).

The Court in *Richardson v. Belcher*, went further at page 79 and stated the following:

> "To characterize an Act of Congress as conferring a 'public benefit' does not, of course, immunize from the scrutiny of the Fifth Amendment."

As we relate *Richardson v. Belcher* to Title I funding formula, it should be noted that in *Richardson* the Federal government assumed the role of *equalizer* by bringing the disabled Social Security recipients up to an established amount per month of $329.70. Were the State of West Virginia unable to produce as great a Workmen's Compensation benefit, then the federal contribution would increase, thus, equalizing the fund available to the recipient. Just the opposite is true under the Title I formula. The more a state expends the more it is granted from the federal government. The poor state cannot expend as much, and therefore it receives less. Inversely, the wealthy state has the ability to extend more and so it receives more. Thus, the relationship between *Richardson* and *Belcher* and the Title I formula becomes even more graphic in terms of the opposing roles of the government. Under Title I the federal government is cast in a role of the disequalizer and disequalization increases as the disparity of wealth between the states is increased.

In *Flemming v. Nestor*, 363 U.S. 603, (1960) the Plaintiff, after accruing old age benefits, was deported because of membership in the communist party, a condition prohibited by the Social Security Act. The Plaintiffs contended that his deportation was unconstitutional and the curtailing of accrued old age benefits was a violation of his Fifth Amendment rights. The Court held that the Social Security Act which curtailed said rights was not unconstitutional in that there was no arbitrary classification lacking in rational justification that would render the statute invalid.

The Court concluded that there was obvious relevance to the purpose of the act from the fact that the Plaintiffs held residence abroad, was a deportee and presumably a foreign resident. In this regard, the Court stated:

> "One benefit which may be thought to accrue to the economy from the Social Security system is the increased over-all national purchasing power resulting from taxation of productive elements of the economy to provide payments of the retired and disabled who might otherwise be destitute or nearly so, and who would generally spend a comparatively large percentage of their benefit payments. This advantage would be lost as to payments made to one residing abroad." 363 U.S. at 618

Further, the Court found that it was irrational for the Congress to conclude that the public purse of the United States would not be utilized to contribute support to those deported or residing in another country.

Applying *Flemming v. Nestor* to Title I, we are confronted with an entirely different situation. The children living and attending school in Kentucky and other poor states are very much a part of the United States, its economy, and its future. The purse of our country, today as well as tomorrow, depends upon the education these children receive and to deny them equal educational benefits would undoubtedly have a profound detrimental effect on their private lives as well as on the welfare of the country as a whole.

II. The Funding Formula for Title I is Subject to the Due Process Clause.

(a) INTRODUCTION.

In *Shapiro v. Thompson*, 394 U.S. 618 (1969), the Court struck down a one year residency requirement imposed by a state upon welfare applicants as a condition for obtaining benefits. One of the principal arguments advanced by the state was that: "It had a valid interest in preserving the physical integrity of its programs." 394 U.S. at page 633 The Court responded as follows:

> "*But a state may not accomplish such a purpose by invidious distinctions between classes of its citizens. It could not for example reduce expenditures for education by barring indigent children from its schools.*" supra (emphasis added)

Thereafter, the Court in *Shapiro* rejected the rational relationship argument advanced by the state which allegedly connected the waiting period and the state's objectives. The Court held that by moving into a new state, or the District of Columbia, an individual was "exercising a constitutional right and any classification which serves to penalize the exercise of that right, unless shown to be necessary to promote a compelling governmental interest is unconstitutional," supra at page 634.

The Court in *Shapiro* concluded the Opinion:

> "The waiting period requirement in the District of Columbia Code . . . is also unconstitutional even though it was adopted by Congress as an exercise of federal power. In terms of federal power the discrimination created by the one-year requirement violates the Due Process Clause of the Fifth Amendment. "[W]hile the Fifth Amendment contains no equal protection clause, it does forbid discrimination that is so unjustifiable as to be violative of due process." *Schneider v. Rusk*, 377 U.S. 163, 168 (1964); *Bolling v. Sharpe*, 347 U.S. 497 (1954)."

In *Flemming v. Adams*, 377 F. 2d 975 (1967) the Court stated at page 977:

> "The U.S. Constitution does not secure to the appellant the right to an education; rather the Constitution secures the appellant's right to equal treatment where the state has undertaken to provide public education to the person within its boundary."

If the Congress has undertaken to provide funds for public education, it has the duty to do so in a manner consistent with due process of the laws under the Fifth Amendment in order to afford the same protection to the targeted school children under Title I regardless of their state's wealth.

III. The Culturally Deprived Child's Education is Based on Wealth Under the Title I Formula.

Citing *Harper v. Virginia State Bd. of Elections*, 383 U.S. 663 (1966), the *Serrano* opinion at page 1250 stated that lately "the Supreme Court has demonstrated a marked antipathy towards legislative classifications which discriminate on the basis of certain 'suspect personal characteristics.'" In *Harper* the high court stated that "lines drawn on the basis of wealth or property like those of race (citations omitted) are traditionally disfavored." 383 U.S. at 668.

Harper added:

> "To introduce wealth or payment of a fee as a measure of a voter's qualification is to introduce a capricious or irrelevant factor." supra.

Harper also stated that once wealth is determined to be a classification it becomes suspect "and thereby demands a more exacting judicial scrutiny." 383 U.S. at 668.

Although the Supreme Court has given special attention to cases involving race and wealth, this does not mean that the particular classification was stricken. It is the effect that the classification has on the interest which has determined the Court's treatment. For instance, to classify by wealth for purposes of voting is unconstitutional. *Harper v. Virginia Bd. of Elections*, 383 U.S. 663 (1966). But the Court held that to classify by wealth for purposes of progressive taxation is constitutional. Similarly, to classify by race for purposes of marriage is unconstitutional, *Loving v. Virginia*, 385 U.S. 1 (1967); but to do so for school integration purposes may be valid.

Professor Bernard Schwartz in his *Constitutional Law, A Textbook*, (1972) discussed unreasonable classifications stating:

> "The most important traits coming within the concept of inherently unreasonable classifications are connected with the broad notion of human equality. Whatever else that notion may mean, it includes denial that differences in race or creed, wealth or status, or sex are legally significant. These differences are all constitutionally irrelevant—mere accidents of birth or condition, which fade into insignificance in the face of our common humanity. To such difference, the law must remain blind, not distinguishing on the basis of who a person is or what he is, or what he possesses.
> From this point of view, the first Justice Harlan made his celebrated assertation that 'our constitution is color-blind.' (dissenting in *Plessy v. Ferguson*, 163 U.S. 537, 559 (1896)). But that same constitution is also creed-blind, *wealth*-blind, status-blind, and sex-blind. The law regards man as man and takes no account of those traits that are constitutional irrelevancies. Laws that classify on the basis of such traits must be repugnant to equal protection." (emphasis added)

At this point our inquiry must turn to the benefits which the various targeted groups of school children in their respective states receive under the Title I formula that will justify unequal treatment of the admitted disparity. These reasons may be perceived by Congress to justify the classification by wealth as it did in *Fleming v. Nestor,* 363 U.S. 603 (1960). The Court held therein that the plaintiff forfeited his old age benefits under the Social Security Act by joining the Communist Party and being deported as a result thereof.

But under Title I, what purpose is being served by the disparity in the formula? We assume that wealth is a criterion for the distribution of more money to such states as New York, Illinois, and California than to states such as Kentucky, West Virginia, and New Mexico. Is it just by chance that the latter three states are rural and agrarian in nature as compared to the former three states being more urban? Or is it not a truism and common knowledge that revenues raised by New York, California, and Illionis for school purposes are greater because there is more per capita income in those states and that there is more wealth to tax in those states and that, as a direct result thereof, there is a greater input into the educational systems of those states and that such inputs add greatly to the educational advantages of their children as compared to the school children of Kentucky, West Virginia, and New Mexico? Because of all of the foregoing, the formula in Title I rewards the educationally deprived children in the wealthier states (who have an average annual expenditure per child above the national average) with more dollars than the same targeted group of educationally deprived children in states which expend less than the national annual average per pupil expenditure such as Kentucky.

The constitutionality of Title I in *Downs v. Marland* is not being fought on the question of need as it was in *McInnis v. Shapiro,* 293 F.Supp. 327 (N.D.Ill. 1968) aff'd *sub nom.* However, it must be apparent that the Title I funding formula is really inverted and amounts to regressive legislation. For instead of assisting to a greater extent the recipient school children in the state of Kentucky and other poorer states who enjoy less dollars for education from their state, the Title I money is distributed to recipients in New York, admittedly in greater proportions. The need of the targeted school children in Kentucky is obviously more. Educational input as it affects each of the school children in Kentucky is less. The formula admits this. The state of New York has greater input per school child and is able to provide and afford greater educational benefits as a direct result of its wealth. And yet the need is greatest where the wealth is least.

There are many factors isolated by the opinions of the Courts which may be used in identifying unconstitutional classifications:

1. Whether the group whose interest is injured and so politically disadvantaged that it cannot adequately protect its own interest from excessive and unjust impairment, *Railway Express Agency, Inc. v. New York,* 336 U.S. 106, 112 (1949). Therein, Justice Jackson stated that:

> " 'Special care must be exercised when the minority is such that it is unrealistic to rely upon 'the operation of those political processes ordinarily to be relied upon to protect minorities.' "

At least two federal courts have identified the poor as a minority which is too defenseless to be able to enforce adequately its rights. *Rothstein v. Wyman*, 303 F. Supp. 339, 347 (S.D.N.Y. 1969), *vacated and remanded*, 398 U.S. 275 (1970); *Hobson v. Hansen*, 269 F.Supp. 401, 508 (D.D.C. 1967) *aff'd sub nom. Smuck v. Hobson*, 408 F.2d 175 (D.C. Sir. 1969).

2. Whether the very act of classification will deter the exercise of constitutionally protected rights by denying satisfaction of an important want to those who have recently exercised one of those rights; *Shapiro v. Thompson*, 394 U.S. 618 (1969). Our situation applies just as it did in the welfare residency requirement case.

3. Whether the classifying trait is one over which the affected individual has no control; *Levy v. Louisiana*, 391 U.S. 68 (1968), *Glona v. American Guarantee & Liability Ins. Co.*, 391 U.S. 73 (1968) (Illegitimacy). Race also falls into the category of immutable traits.

4. Whether the classification may stigmatize a group discriminated against, *Brown v. Board of Education*, 347 U.S 483 (1954).

And in *Skinner v. Oklahoma*, 316 U.S. 535 (1942) the Court struck down a law distinguishing larcenists from embezzlers for purposes of mandatory sterilization, holding that there was no factual basis for such a distinction. Despite the fact that this classification was not suspect it still was "invidious" as a standard for depriving some people of a fundamental interest because there was no factual link between the classifying trait and the state's alledged objective.

(The foregoing analysis was taken from 84 Harv. L. Rev. 1, 66-67 (1970)).

The first unconstitutional classification applies to Title I in that the politically disadvantaged group is composed of poor school children. The Title I formula refers to this group as "educationally deprived school children" and as this paper points out the school children have been the subject of special protection by the Court.

As concerns the second factor in identifying the suspect trait above, we raise the issue of whether or not education is a fundamental interest. But we do not consider the issue of fundamentality critical since government must treat persons standing in the same relationship with government equally. The Court must decide whether there is a denial of due process rights by failure to distribute equal funds to like classes of children based on state wealth. It cannot be denied that special programs paid for by Title I funds benefit recipient school children in the wealthier states to a higher degree than they do in the state of Kentucky or at least in those states whose annual average per student expenditure exceeds the national average.

Concerning the third factor, the children in the poor states have no control over the distribution of funds under Title I. They cannot help themselves as the plaintiffs could in *Dandridge v. Williams*, 397 U.S. 471 (1970).

Finally, concerning the fourth factor used in identifying a suspect trait, certainly language in *Serrano v. Priest*, 487 P.2d 1241, at page 1259 (1971) applies:

> "[I]t has been suggested that 'a poor child assigned willie-nillie to an inferior state school takes on the complexion of a prisoner, complete with a minimum sentence at 12 years.' " (citing *Coons, Clune & Sugarman*, 57 Cal. L. Rev. 305 at page 388)

The Title I formula under contest classifies children on the basis of wealth. Per pupil expenditures of the states are undeniably related to the wealth of the states as indicated in the previous charts. Further evidence that high and low expenditures are a function of wealth can be shown by simply correlating state per pupil expenditures for all 50 states against the states' per capita personal income. Rather conclusively, these data show a correlation of over .7 which is significant at the .01 level. In other words, the possibility of this relationship happening by chance is less than one in a hundred. To categorize children in a targeted population according to the expenditures of their state for education is to make the child's education a function of the wealth of the state. To provide funds proportional to the state's fiscal inability is certainly a factor which is irrelevant to the education of an educationally deprived child. While it may be rationally argued that a child from a poor state should be given more federal funds in order to equalize expenditures between poor and wealthy states, there is no constitutional justification for the federal government to allocate less money to the children from poor, low expenditure states.

The unequal treatment of equals is therefore clearly present in the *Downs* case. The children are identified by Title I criteria as being educationally deprived from low-income families. The criterion (children ages five to seventeen from families with incomes of $3,000 or less) for identifying these children is uniform among all states, as established by Congress itself. However, once the children needing this special educational assistance are identified, the Title I formula proceeds to treat the children within the class differently. Those educationally deprived children from wealthy states are given more money than those from poor states.

The Formula in Review. The uniqueness of the case at bar is that the Congress, through the Title I formula, specifically circumscribes a specific class of children to be the recipients of federal aid and then it without reason or rationale discriminates within the class. This in itself is sufficient to hold the act unconstitutional if the time honored standard of equal protection, "equal treatment of equals," is followed, whether the court subscribes to either the "compelling interest" or the "rational relation" standard. The discrimination is certainly invidious when one considers that the government does not just treat the children unequally, but there is a pattern to its inequality, it provides the rich more and the poor less.

IV. The Protection of a Discrete Class of School Children Should Receive the Court's Special Solicitude.

Coons, Clune & Sugarman, 57 Cal. L. Rev. 305, 389-391, state that there is a case for treating children as people in a victimized class. In *Brent v. Massachusetts*, 321 U.S. 158, 165 (1944), the Court stated: "It is the interest of youth itself, and of the whole community that children be both safeguarded from abuses and given opportunities for growth into free and independent well-developed men and citizens."

Under Title I, we are not only dealing with children but a targeted group of "educationally deprived children"—poor children. And the argument in favor of the children as a special handicapped class takes on greater moment when considering that, within that class, special funds are distributed to them based on state wealth.

This problem was considered in 82 Harv. L. Rev. 1065, 1124 (1969) "Developments in the Law—Equal Protection (a) Suspect Classifications":

> "Consequently, when politically disadvantaged minorities are affected, the legislative judgment should be more critically regarded for such disadvantaged groups yield less influence in legislative councils than their proportion in the population would seem to warrant."

The footnote to the above quotation is also noteworthy:

> "That minorities might be unable to find protection in the political process and that therefore the Court might appropriately regard their interest with special solicitude was in fact suggested by Mr. Justice Stone in his famous footnote to the *United States v. Carolene Prod. Co.* 304 U.S. 144, 153 n. 4 (1938): '[P]rejudice against discrete and insular minorities may be a special condition which tends seriously to curtail the operation of those political processes ordinarily to be relied upon to protect minorities, and which may call for a correspondingly more searching judicial inquiry.' See *Hobson v. Hansen,* 269 F. Supp. 401, 507-08 n 198 (D.D.C. 1967), *aff'd. sub. nom. Smuck v. Hobson,* No. 21, 167 (D.C. Cir. Jan. 21, 1969). In this sense, those whose political strength has been diluted either by lack of home rule as in *Hobson* or by malapportionment may be seen as members of a disadvantaged minority. With regard to the proper scope of judicial review, Eugene Rostow has remarked: 'The freedom of the legislatures to act within wide limits of constitutional construction is the wise rule of judicial policy only if the processes through which they act are reasonably democratic.' *Rostow, The Democratic Character of Judicial Review*, 66 Harv. L. Rev. 193, 202 (1952)."

The above article added that race and lineage are such basic characteristics "over which an individual has no control and for which he should receive neither blame nor reward," supra at page 1127. However, Plaintiffs in *Downs* contend that there should be added to these characteristics the targeted group of school children identified by an Act of Congress. These individuals likewise have no control over the manner in which the Title I monies are distributed and they should not be blamed or disparaged by the Title I formula with respect to the amounts allotted the targeted group living in Kentucky when compared to those same targeted children living in New York.

V. The Due Process Clause of the Fifth Amendment Applies to Invalidate the Title I Formula.

Despite the fact that the due process and equal protection clauses are not always interchangeable as indicated in *Bolling v. Sharpe*, 347 U.S. 499 (1954), the present situation warrants invocation of substantive due process.

As it applies to the Title I formula the critical language in *Bolling v. Sharpe* is as follows:

> "In view of our decision that the Constitution prohibits the states from maintaining racially segregated public schools, it would be unthinkable that that same Constitution would impose a lesser duty on the federal government." supra.

The government would contend that because the equal protection and due process clauses are not always interchangeable phrases (keeping in mind that the equal protection clause is explicit and that the due process clause is implicit, states *Bolling v. Sharpe*), that the holding in *Bolling* does not require that all federal laws adopted for legitimate social purposes be subject to as strict an equal protection analysis as state legislation under the Fourteenth Amendment. But the government cannot show that legitimate social purpose is served in Title I by classifying educationally deprived children according to wealth.

Because of *Bolling v. Sharpe*, 347 U.S. 497 (1954) and *Shapiro v. Thompson*, 394 U.S. 618 (1969), each of which cases fell on the heels of similar cases from state jurisdictions under the Fourteenth Amendment, the government could contend that, unless the case is a companion case in a similar state situation, the due process clause cannot possibly apply to the invidious discrimination fostered by the Title I formula. This theory is, on its face, void of any legal merit. No cases can be cited to support it and one could easily have stated that, since *Bolling v. Sharpe* and *Shapiro v. Thompson* were decided in the 50's and 60's, the law should not be otherwise in the 70's and 80's.

There are numerous cases outside the District of Columbia in which the Courts have applied the Due Process Clause. To such cases the Supreme Court has required that the state show a lack of any other alternative to accomplish its legislative or regulatory goals. *Gau-*

treaux v. Romney, 448 F.2d 731 (1971); *Skinner v. Oklahoma*, 316 U.S. 535 (1942); *Yick Wo v. Hopkins*, 118 U.S. 356 (1886); *Griffin v. Illinois*, 351 U.S. 12 (1956) and *Reynolds v. Sims*, 377 U.S. 533 (1964). Certainly here the federal government has the very reasonable alternative of treating all the culturally deprived children equally by allocating each the same amount of money.

The government may further argue that the Fifth Amendment is not applicable to the safeguarding against discrimination based on wealth and would state that the Plaintiffs' argument in *Downs* ignores the Court's assertion in *Bolling v. Sharpe*, 347 U.S. 497 (1954), that the guarantees under the Fifth and Fourteenth Amendment are not coextensive.

But there are no cases to indicate that the Fifth Amendment guarantee of due process does not protect the interest of education when discrimination is fostered on school children through an Act of Congress which refers to said children as "educationally deprived under a wealth classification."

It is true that the Equal Protection Clause in the Fourteenth Amendment is more explicit than the Due Process Clause of the Fifth Amendment. This simply means that what is protected by the equal protection clause in the Fourteenth Amendment is not implied.

In *Shapiro v. Thompson*, 394 U.S. 618 (1969), the Supreme Court applied the Due Process Clause in holding a one-year waiting period for welfare assistance unconstitutional. Here the District of Columbia waiting period had been adopted by Congress as an exercise of federal power. As to the application of the Due Process Clause the Court said:

> "In terms of federal power, the discrimination created by the one-year requirement violates the Due Process Clause of the Fifth Amendment. 'While the Fifth Amendment contains no equal protection clause, it does forbid discrimination that "unjustifiable as to be violative of due process"' [Citations omitted]. For the reasons we have stated in invalidating the Pennsylvania and Connecticut provisions, the District of Columbia provision is also invalid—the Due Process Clause of the Fifth Amendment prohibits Congress from denying public assistance to poor persons otherwise eligible solely on the ground that they have not been residents of the District of Columbia for one year at the time their applications are filed." 394 U.S. at 642.

While the situations are certainly not identical, the words of the Supreme Court in *Shapiro* bear striking application to the Title I formula. The targeted children in states, at or below the national average, are denied equal Title I funds solely on the grounds that they reside in a poor state. The elements of poverty and residence are present in both situations.

This argument was reinforced in *Gautreaux v. Romney*, 448 F.2d 731 (1971). Here the United States Court of Appeals for the Seventh

Circuit held that the Department of Housing and Urban Development had knowingly acquiesced in Chicago Housing Authority's discriminatory housing program. HUD violated the Fifth Amendment by its approval and funding of segregated CHA housing sites. Although *Gautreaux* involves racial segregation, it is nevertheless a clear example of the power of the courts to invoke the Due Process Clause to prevent discrimination by an agency of the federal government.

The discrimination in the Title I formula bears striking parallel with the *Hobson* cases, 269 F.Supp. 401, affirmed, sub nom. *Smuck v. Hobson*, 132 U.S. App. D.C. 372, 408 F.2d 175 (1969) *en banc; Hobson v. Hansen*, 327 F.Supp. 844 (1971), emanating from the District of Columbia. In both situations the court invoked the Due Process Clause of the Fifth Amendment to hold racial and economic discrimination in the District of Columbia public schools unconstitutional. The first *Hobson* case in 1967 did not require equal expenditures among the schools of Washington, D.C., but assumed the other portions of its decree requiring desegregation and proscribing tracking of students would have the secondary effect of equalizing the overall resource allocation among the District's public schools. The financial equalization of expenditures did not, however, come about automatically. In 1970, the plaintiffs in *Hobson* II, 327 F.Supp. 844, (1971) requested a specific remedy to alleviate the disparity in per pupil expenditures which continued to exist. The court found a pattern of higher expenditures per pupil among the schools in the more affluent sections of the District. In arriving at this finding the court merely analyzed the expenditure patterns, in much the same pattern as under Title I, and concluded that:

> ". . . these figures make out a compelling *prima facie* case that the District of Columbia school system operates discriminatorily along racial and *socio-economic* lines (emphasis added)

The words "socio-economic" are emphasized because of their obvious applicability to the children discriminated against under Title I. In the District of Columbia the schools in the wealthier areas of the city had both higher expenditures per pupil and also higher achievement test scores, *Hobson v. Hansen*, supra, p. 858. The Court in *Hobson* not only invoked due process of the Fifth Amendment to hold the District's financing system unconstitutional, but it further proposed a remedy which mandated that the school board not deviate more than five percent from the mean per pupil expenditures for teachers' salaries and benefits. The situation in the District of Columbia is to a great extent a microcosm of the nation as viewed in *Downs v. Marland*. It should be again pointed out that the high expenditure and wealthy states of the North and West are also the high achievement states, indicating a nationwide pattern of affluence, high expenditures, and superior knowledge which is reinforced and increased by the Title I formula. Therefore, there is substantial reason to invoke the "Due Process Clause" of the Fifth Amendment to correct this grave and invidious discrimination.

THE GOVERNMENT'S RATIONALE FOR TREATING EDUCATIONALLY DEPRIVED CHILDREN UNEQUALLY

In *Downs v. Marland*, the government advanced three basic reasons in attempting to constitutionally justify the Title I formula.

The first and foremost argument is that "it costs more to provide the same attention to the deprived child in a high cost of living state than it does in a low cost of living state." This is the same argument advanced by many wealthy school districts when faced with the necessity to defend their educational affluence. Even though one might perceive this to be true in the district, there is simply no evidence to indicate that the poor state with low expenditures has as good an educational program as a rich state with high expenditures. In *McInnis v. Shapiro*, 293 F.Supp. 327, 331 (1968), the federal district court commented that: "Presumably, students receiving a $1,000 education are better educated than those acquiring a $600 schooling."

Certainly, it would be foolhardy to maintain that less money would result in better education. Only last year, an Associate United States Commissioner of Education in a speech before the Great Cities School Council effectively denied the government's contention that richer states should receive more because they have an alledged higher cost of living. He said:

> "Wide variations in school expenditures exist within and *among states*. These variations often result from the differences in financial resources available to different communities . . . . Although research has not demonstrated the precise relationship between the amount of money a community spends on education and the quality of its schools, it is assumed that larger expenditures generally produce better education." (emphasis added) Duane J. Mattheis, *The Emergency in School Finance*, Council of Great City Schools, March 15, 1972, Washington, D.C., p. 4.

The Associate Commissioner's refutation of government's cost of living argument is echoed by a federal district court in *Hargrave v. Kirk*, 313 F. Supp. 944 (1970); vacated and remanded on other grounds sub. nom; *Askew v. Hargrave*, 401 U.S. 476 91 S.Ct. 856 (1971), the Court said:

> "It may be that in the abstract the difference in dollars available does not necessarily produce a difference in the quality of education. But this abstract statement must give way to proof to the contrary."

With most of the poorer low expenditure states in the South, and the wealthier, high expenditure states in the North and far West, it would be logical to assume that if the government's argument is true, that the educational systems of these areas of the country would be equal in quality and product regardless of expenditure. In other words, the difference in the expenditures lies in the high cost of living rather than in superior educational programs. This assertion is contradicted by data from the famous Coleman (James S. Coleman, et al., *Equality of Educational Opportunity*, U.S. Government Printing Office, Washington, D.C., 1966, pp. 219-220) report. Regarding the pupil achievement in the North, West and South, the study said:

> "The regional variation is rather consistent for both Negroes and whites. Consistently lowest for both groups is the nonmetropolitan South. Consistently highest is the metropolitan North. In general, both whites and Negroes show higher achievement in the North and West than in the South and Southwest, and higher achievement in metropolitan areas than outside metropolitan areas."
>
> "The regional variation is much greater for Negroes than for whites. The achievement disadvantage suffered by whites as a result of living in the rural South compared to the urban North is three or four points in the standard scores, or about 15 percentile points in the distribution of white scores. The achievement disadvantage by 12th grade Negroes as a result of living in the rural South compared to the urban North is seven or eight points in the standard scores, or about 30 percentile points in the distribution of Negro scores."

This study suggests that wealthier, high expenditure, northern states are also the states with better education programs and products.

The Bureau of Labor Statistics of the U.S. Department of Labor has no data to support the cost of living argument by the government (See: *The Consumer Price Index, A Short Description*, 1971, U.S. Department of Labor, Bureau of Labor Statistics). The Bureau produces no Consumer Price Index for any state. About the only data which are available are between and among metropolitan areas. Coleman's data, however, would indicate that it is metropolitan areas which have the highest pupil achievement. (John E. Coons, William H. Clune, III and Stephen D. Sugarman, *Educational Opportunity: A Workable Constitutional Test for State Financial Structures*, Vol. 57 Calif. L. Rev. 305, April, 1969, p. 310. See also: Bowles and Levin, *The Determinants of Scholastic Achievement—An appraisal of Some Recent Evidence*, 3 J. Human Resources, [1968] have commented: "Thus far, no one has come near demonstrating the actual cost-benefit relation of educational expenditures."

The data today just do not support the cost of living interest advanced by the government to justify providing more funds to wealthy, high expenditure states. All evidence, in fact, is to the contrary, where we find high expenditures, we also find better education and superior educational products. From the evidence, or lack of it, no one can rationally assume that more dollars do not buy a better education or that less dollars buy an equivalent education.

The second argument advanced by the government is that the Title I formula operates as an incentive for states to appropriate more state and local resources to public education. This assertion could be true except for two obvious facts to the contrary, the first of which is the formula itself. Under the formula a state can now reduce its expenditure to nothing and it will still get the national average. Incentive is, therefore, obviously not a rational defense because the formula itself contradicts this purpose. If incentive were the justification, the formula would only be an incentive for those wealthy states already above the national average. As for the poor states, it is not reasonable for the Congress to assume or by formula attempt to force the states of Kentucky or Mississippi to put forth nearly twice the fiscal effort of the wealthy states to raise equivalent expenditures per pupil. To place such an imposition on the poor state is not fair to the school child or the taxpayer.

The second reason that we can safely assume that the basic Title I formula was not intended to be an incentive grant is that the Congress, in fact, enacted a separate provision in the Title I law to promote incentive. This portion of the Act was Part B—Special Incentive Grants, 20 U.S.C. 241d. If the Congress intended the basic grant to be an incentive grant, why did it feel it necessary to provide another separate, unrelated formula to encourage state incentive? Under this provision, which is strictly designed to encourage tax effort, the fiscal ability of the state is taken into account. This is accomplished by establishing an effort index not only from expenditures, but also the personal income of the state. This formula effectively holds wealth constant and rewards the state's true tax effort for education. It does not simply give the rich states more because they spend more as does the basic Title I grant provision which is under contest here.

Wealthy states in many instances, have low fiscal effort for education, but have comparatively high expenditures. In fact, nationwide, there is a tendency for the poorer states to put forth greater effort for education than the wealthy states (Kern Alexander and K. Forbis Jordan, *Constitutional Reform of School Finance*, Lexington Books, Lexington, Massachusetts, 1973, p. 89. See also: *Serrano v. Priest;* 96 Cal. Rptr. 601, 487 P.2d 1241, 1252 [1971]). To simply give more money per child to the high expenditure states does not encourage effort, it simply gives more money to the wealthy than to the poor.

The government further contends in *Downs* that the formula, as now derived, is "a pragmatic one from the Federal Government's point of view." At the outset, it should be observed that pragmatism itself is not necessarily reasonable nor rational. It is undoubtedly true that school segregation, *Brown v. Board of Education of Topeka,* and nonreapportionment, *Baker v. Carr,* were politically pragmatic but certainly not constitutional. Be that as it may, the government in developing the "pragmatism" argument poses the hypothetical that "If, for example, the Title I grants were awarded on an increasing basis as the level of state expenditures decreased, the most economic and efficient state results would be reached by providing as little as possible for education, shifting the burden to the Federal Government."

This example completely misses the mark; the situation drawn and the conclusion reached are unrelated to the constitutionality of the issues raised. For instance, the plaintiffs in *Downs v. Marland* have never contended to assert a right to more money because they attend school in a low expenditure state. It is clear from the purpose of the Title I formula that it was not intended to relieve state and local taxes, and the plaintiffs in *Downs v. Marland* would certainly agree that the Title I formula should not be used to this end. They do not ask that educationally deprived children in poor, low expenditure states be given more money than their counterparts in wealthy, high expenditure states; they simply plea that educationally deprived children be treated equally, regardless of where they live or the economic condition of their state. The Downs children, as equals, seek only to be treated equally.

FOOTNOTE

1. As out-migration of educationally deprived children has occurred, some states have faced the possibility of having an overall reduction in total Title I resources. In 1967 a "floor" provision was placed in the Title I law which guaranteed all states would receive at least as much as they received in the base year of 1967 until appropriations reached the $1.5 billion level. Section 144, Public Law 89-10.

In addition, in 1967, a temporary one-year amendment was attached to the appropriation bill, not to the body of Title I formula, which, also, guaranteed that "No state shall receive less than the amount expended during the previous year." (Public Law 89-697.)

The provision providing a base allocation of at least the 1967 amount was soon out of date and the states with out-migration were unable to change the basic Title I formula, so each year they fought to amend the appropriation bill with the "fail safe" clause. In 1968, the provision was attached which provided "No state shall receive less than received the previous year." (Public Law 90-132.) In 1969 another temporary "floor" was attached to the appropriations bill, this time providing that "No state shall receive less than 92 percent of the money received the previous year." (Public Law 90-557.) In 1970 the language was the same as the 1968 provision. (Public Law 91-204.) In 1971 the amendment guaranteed no state would receive less than in 1968. (Public Law 91-380.) In 1972 a similar attempt to amend the appropriations bill was made but was challenged on the floor on a point-of-order. (Public Law 92-480.) Following this the guarantee was salvaged by a supplemental appropriation in Public Law 92-148. There are no "floor" provisions in the law for 1973 other than the original Section 144, Public Law 89-10 provision in the basic Title I law which guaranteed a 1967 minimum level of funding for each state.

Recent Court Decisions and School Capital Outlay

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> "If we think there are inequities in state systems for funding current expenditures of public schools, wait until we examine the way we finance school buildings!" Governor Calvin Rampton, address to Utah Conference on School Finance, April, 1972.

Governor Rampton spoke with full knowledge that in half of the states in the nation funds available for school buildings and debt service were a function of the wealth of a child's parents and neighbors. Governor Rampton also indicated awareness that school facilities affect the quality of a child's education.

Literally hundreds of decisions in courts of record chart the guidelines regarding the issuance of bonds for school building purposes and the acquisition of school property. Many of these decisions reflect the conventional wisdom of the nineteenth century. During the last half century a number of decisions have centered around school construction by state or local school building authorities, leasing of facilities, and lease purchase. Our interest today, however, is not in these decisions. Rather it is in the broad area of state and local funding of public schools, with particular attention to the implications for capital outlay financing of recent "landmark" court decisions in California, Minnesota, Texas, New Jersey and other states. Alexander and Jordan have referred to these as second generation decisions. The central theme of these decisions is that the quality of a child's education cannot constitutionally be contingent upon the wealth of the local school district.[1]

Shannon has referred to these decisions as the "Western Tide" of public school financing reform.[2] While none of these decisions has become the "law of the land" as yet, the "Serrano theory" of school finance first clearly expressed in the California case of *Serrano v. Priest* has permeated recent decisions.

One characteristic of the recent "landmark" court decisions and other cases awaiting decisions is their preoccupation with current operating costs and their virtual exclusion of consideration of the costs of other programs and the whole gamut of costs of school services.

Wise calls attention to some of the exclusions which characterize financial data presented in recent court decisions. Current expenses for the operation of the instructional program exclude such items as pupil transportation, school lunches, debt service, capital outlay, and lease rental payments.[3] During 1971-72 capital outlay and interest on school debt in the nation's public schools exceeded $6 billion, a sizable exclusion which can not long be ignored.

All states except Hawaii have consistently violated the basic concept that the costs of all public school programs and services are an integral part of our state and local public school finance systems. The concept has been equally violated in the recent landmark court decisions.

Rossmiller has pointed out that there can be little doubt that the quality of buildings and equipment available to support a child's education affects the quality of educational opportunity offered to the child.[4]

Another series of court decisions has implications for state and local funding. The desegregation cases, particularly the Richmond, Virginia, decision which has been appealed to the United States Supreme Court, have implications for state and local systems of public school financing of school facilities, debt service, and busing. The precedent shattering decision of Federal District Judge Robert H. Merhige, Jr., ordered the merger of the school systems of Richmond, Virginia, and two neighboring counties. An attorney for the defense regarded the decision as of major importance, since it offered a *way of equalizing funds* between cities and suburbs.[5]

The recent action of the United States Supreme Court in overturning the *Rodriguez* (San Antonio, Texas) decision may at first glance appear to classify the second generation court decisions as moot. This is not necessarily true. The inequities which these decisions attacked still remain. State and local finance policy may not be unconstitutional, but it remains inequitable and immoral. Presumably relief must be sought by legislative action and not through judicial review.

Let us now turn our attention to a summary of the inequities of financing capital outlay and debt service within and among the states. This will be followed by application of the theory developed in recent court decisions to the state and local funding of school facilities and equipment and related debt service and/or lease-rental obligations.

Table 1 shows that only 25 of the 50 states were allocating state funds to local districts for either construction or debt service. Only three states were sharing per pupil costs for capital outlay at the 50

TABLE 1

PERCENT OF STATE SUPPORT OF CAPITAL OUTLAY, 1968-1969

State	*Capital outlay**	*State support* (capital outlay and debt service)*	*Percent state support is of capital outlay*	*Rank*
Hawaii	$188.43	$188.43	100.0	1
Kentucky	45.74	32.45	70.9	2
Connecticut	53.78	28.12	52.3	3
Vermont	102.45	49.60	48.4	4
Delaware	282.91	136.35	48.2	5
Indiana	86.96	41.43	47.6	6
Florida	97.08	44.45	45.8	7
Georgia	63.35	27.93	44.1	8
New York	144.15	59.46	41.2	9
South Carolina	72.79	27.16	37.3	10
Pennsylvania	67.54	23.14	34.3	11
Massachusetts	71.15	22.79	32.0	12
Maryland**	218.29	64.38	29.5	13
Mississippi	57.12	12.18	21.3	14
New Hampshire	104.53	21.35	20.4	15
Tennessee	61.91	12.43	20.1	16
New Jersey	122.04	21.80	17.9	17
Washington	105.00	17.15	16.3	18
Maine	113.28	18.12	16.0	19
Rhode Island	164.20	25.91	15.8	20
North Carolina	53.96	7.60	14.1	21
Utah	127.93	14.89	11.6	22
Alaska	286.14	23.87	8.3	23
Alabama	46.98	2.49	5.3	24
Missouri	109.58	2.02	1.8	25

Source: NEFP, National Capital Outlay Study and NEA Estimates of School Statistics. The above table is supplemental to tables appearing in Barr, W. M.; Jordan, K. F.; Hudson, C. C.; Peterson, W. J.; and Wilkerson, W. R., *Financing Public Elementary and Secondary School Facilities in the United States,* Bloomington, Indiana, June, 1970.

*Amount per pupil.

**Maryland initiated full state funding of capital outlay in 1971.

Other states reported no grants for capital outlay or debt service.

percent level or better; nine of the 25 states were granting less than 25 percent of capital outlay costs.

Capital outlay and debt service requirements vary much more widely among school districts within a state than do requirements for current expenditures. The fact that 25 states do not share at all in the funding of these essential elements indicates extreme disequalization of both local fiscal capacity and local tax burden.

ANALYSIS OF REPRESENTATIVE EXISTING STATE PROGRAMS

State programs for financing school construction or debt service can be generally categorized as follows:

1. Total state support.
2. Construction grants based upon a fixed or variable percentage of approved project cost.
3. Construction or debt service grants which are closely related to, or part of, a foundation program.
4. Flat or variable grants for debt service.
5. State loan programs.
6. No state participation.

Total state funding programs, such as those now existing in Hawaii and Maryland, probably can satisfy all of the requirements of fiscal neutrality if local debt service is also assumed by the state. Let us examine data from selected states which use differing methods for funding school buildings.

Delaware. Delaware's program for financing school construction was analyzed recently in an NEFP study.[6] Delaware has, for several years, granted 60 percent of approved project costs to local districts, with the local share obtained from bond issues. Even with relatively heavy state support, the following key findings point out that equalization was not attained.

1. While the typical Delaware school district had sufficient local debt leeway to permit construction of needed buildings, leeway was not uniform and some poorer districts could not raise the required local share because of the debt limitation of ten percent of assessed valuation. With average per pupil debt leeway for all districts valued at 100, leeway range, expressed as an index number, ranged from a low of 12 to a high of 206. Expressed in dollars, the range was $101 to $1,735 per pupil.
2. The range of debt service tax rates was from 6¢ to 46.9¢ per $100 of full valuation.
3. As might be expected, rich districts typically had high bonded debt per pupil, relatively low debt service tax rates, and high debt leeway. The reverse was generally true for poorer districts. Variations in prior effort and in need for facilities were other significant determinants of a given district's standing with respect to debt, leeway, and tax rates.

Kentucky. The Kentucky program provides for allotment of $1,300 per classroom unit as part of the Foundation Program. Local districts may use these funds for construction or debt service, and in certain cases, for current operation purposes. Local districts may also establish a special voted building levy, and may allocate current operation funds for construction.

Two recent studies of the Kentucky program provided the following findings:[7, 8]

1. There is wide disparity among districts in terms of bonding and tax leeway and in terms of local effort.
2. Some districts, particularly those with rapid increases in enrollment, have little means to finance needed projects even with heavy local effort.
3. Other districts have little need for new construction and receive more money from the state than is needed for construction or debt service.
4. Capital outlay funds are frequently transferred to the general fund, primarily by districts who did not have immediate building needs.
5. The state was assuming nearly 80 percent of the costs of current operation but less than 40 percent of the costs of school construction and debt service in 1970-71.
6. The bonded debt per pupil ranged from 0 to $1,958. Debt leeway ranged from $66 to $1,384 per pupil.
7. Local willingness to incur debt or to establish special voted building funds was instrumental in determining local capacity.

Indiana. Flat grants of $40 per pupil are allocated to each Indiana school district, with proceeds to be used for debt service. Excess funds not needed for debt service may be used for current operation. Analysis of 1971-72 statistics for the ten wealthiest, ten poorest, and 20 districts with approximately average wealth revealed the following:

1. The median debt service tax rate for the ten wealthiest school districts was zero, for average wealth districts was 42¢, and for the poorest districts was $1.13 per $100 of taxables.
2. The range of total tax rate for school building purposes for the 40 selected districts was zero to $2.56 per $100, with poorer districts having higher rates. Debt per pupil ranged from zero to $2,690. The district with highest debt per pupil, one of the wealthy districts, had a total school building tax rate of only 77¢.

Hile,[9] in his 1971 study, listed the following among major findings in his analysis of the Indiana program.

1. Ninety-one districts (of 301) had debt service requirements which were less than the amount granted by the state. Approximately 22 percent of the flat grant funds was used for current operation; Indianapolis allocated more than $2 million of grant proceeds to operation.
2. Local tax effort for facilities ranged from zero to $3.36 per $100.

Illinois and Iowa. Local school districts in Illinois carry virtually the entire burden of school construction financing, since grants are made only for special education facilities. Districts which have exhausted their bonding power can obtain loans from the state.

Battin[10] observed, after studying a sample of 134 Illinois districts, that median per pupil expenditure for debt service was $42.14 with a range of zero to $223.21.

White[11] studied school construction financing in Iowa, where local property taxation furnishes all funds for capital outlay and debt service. Iowa, in addition to restricting percentage of debt in relation to assessed valuation, also limits the funding of debt service. Among his findings were:

1. Seventeen of the 453 school districts had no debt service. The highest per pupil expenditure was $154.39, while the median was $50.47. All of the districts with no debt service had above average assessed valuation and below average enrollment.
2. The wealthier school districts spent more per pupil for debt service than did the less wealthy.
3. The tax rate necessary to fund the state average debt service per student ranged from 1.3 mills to 9.7 mills with the poorer districts needing to exert greater effort.

Summary. This admittedly cursory examination of data from selected states utilizing varying programs for financing school buildings shows that none of the programs do very much toward achieving equalization of either local tax effort or ability to finance needed construction.

IMPLICATIONS OF THE SERRANO THEORY FOR CAPITAL OUTLAY FUNDING

Funding of public school facilities clearly violates the principle that the level of spending for a child's education may be a function only of the wealth of the state, not of the school district in which that child happens to reside—a principle which the United States Supreme Court struck down in its recent decision. Possible exceptions exist in Hawaii and in Maryland. None of the "landmark" court decisions have been concerned with the state and local finance systems for funding construction of facilities, debt service, or lease-rental payments. Plaintiffs' contentions were confined to consideration of funding current operating expenses of public schools.

California. Let us consider the Baldwin Park Unified School District and the Gorman Elementary District in Los Angeles County, California. The local property tax base in 1968-1969 was $147,902 per pupil in average daily attendance in Gorman District and was $3,706 in Baldwin Park, a ratio of 40 to 1. The basic state aid and equalization aid to California school districts is not available for capital outlay and debt service funding. The state loan plan is available to "poor" districts and could result in eventual forgiveness of part of the loan in districts such as Baldwin Park. However, there is no way that inequities in the quality of facilities as well as of programs can be avoided, using conventional California financing.

Texas. The seven San Antonio school districts, in Bexar County, Texas, showed a 9 to 1 range in local assessed valuation per student. Texas has no state grant or loan program for school facilities. Consequently the 9 to 1 ratio in local wealth results in unmitigated inequities. The range among all school districts in Texas was from $71,311 assessed valuation per pupil to $1,581, a range of 45.1 to 1. Since capital outlay and debt service are a function only of local wealth in Texas, the inequity in financing is readily apparent.

Even though the *Rodriguez* decision was not upheld, extension of the theory to state-local funding of facilities and attendant debt service may be anticipated. What would be the probable effect?

1. Full state funding of capital outlay and debt service might be required.
2. Alternative funding plans may be considered, ranging from power equalizing through percentage equalizing to a federal surtax.
3. State bonding might supplant local bonding.
4. Reorganization of local school districts will undoubtedly result.
5. Local control of school construction decisions may be further eroded.

Application of *Serrano* theory to the funding of school facilities or attendant indebtedness will necessarily encounter problems which may differ from those encountered in financing current operating programs. Rossmiller has pointed out some of the complications which may affect full state funding of school facilities.[12] The measurement of need may include depreciation, approved project cost, or debt service.

1. Need varies among districts.
2. Need does not occur in regularly predictable patterns.
3. Facilities are entirely locally financed in many states.
4. Bond ratings vary among districts.
5. Debt can smooth the tax burden.

Approximately 35 states have had some experience with state participation in financing school construction through grants, loan plans, or authority financing. Other states have simply depended on local financing of public school facilities.

Per pupil expenditures for capital outlay in 1968-1969 ranged from about $45 per pupil in average daily attendance in Arkansas to about $286 in Alaska. The range within a state was from zero to several hundred dollars per pupil. State support ranged from zero to approximately 70 percent, excluding Hawaii. Local support ranged from zero in Hawaii to 100 percent. These wide variations indicate the complexities of applying *Serrano* theory to funding public school construction. The appropriate relief seems to be full state funding of public school capital outlay and debt service.

A FINANCE MODEL

Special Study No. 7 of the National Educational Finance Project suggested eight models for financing capital outlay. Program No. 5 was entitled State and/or Federal Assumption of School Building Costs.[13] A possible adaptation of this model would be the inclusion of existing debt service as well as of construction costs.

Suggested operating procedures of the above full state funding model included:

1. The state would be authorized to fund the costs of approved construction projects and of existing debt service.
2. Local school districts would develop and submit plans for the construction project to the state education agency for review and approval.
3. Upon approval by the state, funds would be advanced by the state to local districts for site purchase and architectural and engineering fees.
4. Total project cost would be determined as a result of bids and contracts.
5. The local school district would be responsible for the construction program.
6. A schedule for disbursement of the grants would be drawn up by the state in accordance with the construction schedule.
7. The local district would be responsible for payments during construction, final acceptance of the completed project, and final payment upon completion, using granted funds.

Among the positive features of the full state funding model would be:

1. Only needed projects at logical attendance centers would be funded.
2. Full state funding would meet the requirements of equitable financing.
3. Local school districts would retain the responsibility for planning and operating the school facility.
4. Substitution of state for local credit would reduce interest costs.

Among the negative features would be:

1. Local decision-making might be eroded.
2. Local leeway for innovative features could be curtailed.
3. The state budget would bear the impact of costs associated with school facility construction.
4. Prior local effort would not be rewarded unless debt service was included in the program.
5. Local decision-making without local fiscal responsibility might be unwise public policy.

SOURCE OF FUNDS

If state funds are to be allocated, what are appropriate sources of funds?[14] Among those readily apparent are:

1. A state-wide property tax.
2. State bond issues—general obligation or revenue.
3. Allocations from the general fund.
4. Earnings on investment of state funds.

5. Increased rates on existing state taxes.
6. New state taxes.
7. Federal funds.

RECENT COURT CASES

In a 1972 lower court case *Jensen v. State of Indiana,* unequal distribution of funds within a school district became an issue. The ratio of funds among Indianapolis high schools ranged from 2 to 1. The same situation occurred in Hawaii where "equal dollars-equal scholars" was not the rule.

Even with their emphasis on equity the recent court cases did not stipulate several principles. 1. The property tax was not outlawed for school purposes. 2. Equal expenditures per pupil were not required. 3. The relationship between quality of programs and expenditure per pupil was asserted but not proved. 4. Full state funding was not required. 5. Total school expenditures were not taken into consideration.

Regardless of the disposition of the *Rodriguez* case, the current controversy will eventually result in changes in existing state-local funding of public schools. The concepts expressed by Coons, Clune, and Sugarman are provocative, and will have their influence in legislative halls as well as in the courts. (Our present systems of state-local funding of courts may be constitutional but they are certainly inequitable.) As researchers and leaders in school finance theory it is our obligation to strive for equalization of educational opportunity and for equitable funding in every state in the nation.

FOOTNOTES

1. Johns, Roe L.; Alexander, K.; and Jordan, Forbis, editors, *Financing Education—Fiscal and Legal Alternatives,* Charles E. Merrill Publishing Company, Columbus, Ohio, 1972, Chapter 13.

2. Shannon, Thomas A., and Benson, Charles, *Schools Without Property Taxes: Hope or Illusion,* Phi Delta Kappa Educational Foundation, Bloomington, Indiana, 1972.

3. Wise, Arthur E., *Rich Schools, Poor Schools,* University of Chicago, Chicago, 1968, p. 122.

4. Rossmiller, Richard A., "Full State Funding of Education," in *Six Crucial Issues in Education,* National Association of State Boards of Education, The Association, Denver, Colorado, 1972.

5. Barr, W. Monfort, "Recent Court Decisions: Whither Education?," *The School Administrator,* Washington, D.C., April, 1972.

6. Wilkerson, W. R., and Barr, W. M., *A Study of Financing School Construction in Delaware,* Center for Administrative Studies, School of Education, Indiana University, Bloomington, November, 1972.

7. Matarazzo, Salvatore, *Financing Capital Outlay in Kentucky,* National Educational Finance Project Study, 1973.

8. Hehr, G. P., *An Analysis of Kentucky's Capital Outlay State Support Formula,* unpublished doctoral dissertation, Indiana University, Bloomington, 1973.

9. Hile, Jerry L., *A Study of the Indiana Flat Grant Program,* unpublished doctoral dissertation, Indiana University, Bloomington, 1971.

10. Battin, George L., *The Development and Application of a State Plan of Debt Service Aid for the Public Schools of Illinois,* unpublished doctoral dissertation, Indiana University, Bloomington, 1972.

11. White, Louis P., *A State Aid Program for Debt Service for Iowa Public School Districts,* unpublished doctoral dissertation, Indiana University, Bloomington, 1972.

12. Rossmiller, *Ibid.,* pp. 12-13.

13. Barr, W. M.; Jordan, K. F.; Hudson, C. C.; Peterson, W. J.; and Wilkerson, W. R., *Financing Public Elementary and Secondary Schools in the United States,* School of Education, Indiana University, Bloomington, Indiana, 1970, Chapter 7.

The Maryland Experience: Full State Funding of Capital Outlay

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Any discussion of Maryland's program of full funding of public school construction can be fruitful only through a general understanding of the totality of the State program; that is, how it developed, what it provides, how it differs from previous State-aid programs for construction, and how it is administered.

Prior to July 1, 1967, State aid for assisting the Maryland local sub-divisions with schoolhousing consisted of the State paying $70 per *new* pupil in the system and $22 per *continuing* pupil to the extent that this amount exceeded the yield from a tax of 5 cents per hundred dollars of assessed valuation, obviously an inappropriate amount of aid for construction costs in the 1960's.

Beginning on July 1, 1967, the State of Maryland began to share in the costs of school construction in a manner somewhat similar to its sharing in the current expense operations of public schools, but at an 80% level. The formula for this aid was relatively easy to use but difficult to explain; nevertheless, I shall try a capsule summary.

Each construction project was sized according to the number of pupils it housed. The amount of the construction costs to be shared by the State was then determined as the product of "pupils housed" and $1500 discounted by 20%. The $1500 was a 1967 estimate of the cost of providing educational space for one pupil. Again, this was an inappropriate amount for construction costs in the 1970's. Under this sharing plan, no local subdivision received less than 35% of the calculated amount per construction project, and some of the less wealthy counties received as much as 70% State aid. I think it is worthy to note that the State of Maryland did not share at all in those costs of construction which exceeded $1500 per "pupil housed."

In addition to sharing in the costs of construction, the State also shared in 80% of the outstanding debt repayments of the local subdivisions for construction projects underway prior to July 1, 1967, the date when the construction aid just described became effective.

The amount of State aid generated by the above formulas and distributed to the local sub-divisions for Fiscal Year 1968 through Fiscal Year 1971 was found to be inadequate and unrealistic in terms of present-day construction costs. During 1970, a commission appointed by Governor Mandel, under the Chairmanship of Senator Harry Hughes, studying the overall problem of financing education reached the conclusion at the end of their study that the State of Maryland could not then afford to assume all of the costs of public education. The commission recommended that as a first step in the movement toward greater State aid consideration should be given to the full funding by the State of the construction programs of the local educational agencies.

Such a program was recommended by Governor Marvin Mandel in his State of the State message of February 1, 1971; and during the General Assembly, two acts were passed: (1) establishing the public school construction program, and (2) authorizing the sale of State bonds to the extent of 150 million dollars to finance the first 17 months of the program. This legislation increased State aid from a program of sharing in 80% in the first $1500 per pupil of the costs of construction to a 100% share of all construction costs, as well as, 100% of the costs of retiring outstanding bonded indebtedness existing on July 1, 1967. With this assumption of costs, the local governments would no longer need to sell local bonds for school construction.

The legislation establishing the State bond authorization of 150 million dollars was a standard State bond bill, with the required provision for a State real estate tax to guarantee retirement of the bonds. Historically, Maryland has been able to meet its annual obligations without use of this taxing authority. The legislation which established the program is unique and is worthy of examination in some detail.

Most legislation establishing State-aid programs specifies the formula for distribution of the State aid and describes rather specific parameters for the program operation. However, the bill which established the Maryland Public School Construction Program gave authority and responsibility to the State Board of Public Works to establish the rules and regulations which would determine the parameters of the program. As in most states, the State Board of Education (under Public School Law) is charged with full responsibility for the administration and supervision of public schools including construction. In effect, the new legislation said that the State Board of Public Works rather than the State Board of Education would establish the rules and regulations for schoolhouse construction; and if there were any conflict with existing legislation, the action of the State Board of Public Works would prevail.

To implement Chapters 624 and 625 of the Acts of 1971, Governor Mandel appointed a committee of 15, chaired by Lieutenant Governor Blair Lee, to recommend rules and regulations. The rules and regulations adopted by the Board of Public Works on June 29, 1971 were substantially those recommended by Lieutenant Governor Lee's Committee.

The rules were as follows:

1. Establish an interagency committee to administer the program, said committee consisting of the State Superintendent of Schools as Chairman and the Secretaries of the Departments of General Services and State Planning,
2. Provide for an annual and a projected 5-year capital improvement program for each local subdivision,
3. Establish eligible expenditures as:
    a) construction costs of instructional, administrative, and auxiliary support buildings,
    b) purchase or lease of facilities, including transportable buildings, when such is necessary to meet short-term needs,
    c) costs of renovation or remodeling of existing school buildings when deemed by the Interagency Committee to be other than mere maintenance or repair,
    d) architectural and engineering fees to the extent of the State Fee Schedule,
    e) costs of capital equipment and furnishings necessary in placing a building in operation (with the Interagency Committee to determine those items eligible for purchasing from bond monies),
    f) costs of on-site development,
    g) costs of physical education facilities with a $\frac{1}{3}$ limitation of State assistance for the construction of swimming pools,
4. Define as ineligible expenditures those operational costs of:
    a) program development or inspection of construction projects,
    b) purchase of site,
    c) off-site development,
    d) remodeling of stadiums, and lighting systems for outdoor athletic fields,
    e) fine art embellishment,
    f) exclusively non-educational use portions of building,
5. Assign responsibility to the Interagency Committee to review and approve site acquisition proposals, plans and specifications for projects, contract awards (including change orders),
6. Provide for the right of appeal of commitee decisions to the State Board of Public Works,
7. Subject employment of architects to State approval,
8. Provide for a monthly advance of funds based upon a prior approved schedule of payments,
9. Authorize the Department of General Services to contract with the local educational agencies for assistance in carrying out a school capital improvements project, and finally,
10. Provide for emergency funding when a school building is lost from fire or other disaster.

To describe how it functions in accordance with the Rules, Regulations and Procedures for the Administration of the Public School Construction Program in the State of Maryland, you must understand the tripartite agency designated to administer the statewide school construction program known as the Interagency Committee on School Construction. The Secretaries of the Departments of Planning and General Services and the State Superintendent of Schools are represented by designees who act for them in the day to day operations of the agency under the direction and supervision of the Executive Director who represents the State Board of Public Works. The Committee meets on a monthly basis and passes on the recommendations of the Executive Director and designees as to approvals of architects, sites, drawings, contracts and matters of policy.

Each fiscal year the local boards of education submit a capital improvement program for their respective subdivision. These individual programs are reviewed by the Committee staff and a statewide construction program is recommended to the State of Maryland Board of Public Works. After review and approval by the Board of Public Works, a bond bill is prepared for the State Legislature to act upon. The Legislature authorized bond bills of 150 million in 1971 and 300 million for 1972 and at the present time a 220 million bond authorization bill for 1973 is pending before the Legislature. You can see the magnitude of this program—670 million in three years with a projection of almost a billion dollars for construction in five years.

The State of Maryland School Construction Program was designed to allow the greatest amount of initiative and control at the local level in the development of school facilities. The local education agency is responsible for the initiation of the project; the development of educational specification; the selection of sites and architects; the bidding and awarding of construction contracts. In the case of the architectural and construction agreements, the local educational agency is the Owner. The local education agency retains title to the site and the completed facility; the State agency—the Interagency Committee—is responsible for review and approval of all steps in the construction process of a facility.

The agency is staffed with 32 people—most of them professionals architects, educational consultants and planners.

The responsibilities of the three agencies involved in the program, Education, State Planning and General Services are as follows:

1. The Education Section is primarily responsible for development of educational specifications, the architectural program and the concepts leading up to and including the schematic design of the project. Much of this development work is done in the field in conjunction with the local educational planning staff.

2. The Planning Section is primarily responsible for the development and up-dating of the master plans for education of each subdivision, the annual and five year capital improvement programs, the verification for the location and siting of schools and other demographic data.

3. The General Services Section is primarily responsible for the review and approval of the design development and construction drawings, fire and building code requirements, contract reviews, and recommendations for contract award approvals.

The responsibilities of the Executive Director include direction of the entire staff and operation of the Agency on a daily basis. He represents the Committee at all Legislative hearings relating to school construction and is responsible for any administrative bills relating to school construction such as the bond bills. He is directly responsible to the Governor, the State Comptroller and the State Treasurer.

Public Funds & Nonpublic Schools

By Edd Doerr

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Should public funds be used to aid or support sectarian and/or secular nonpublic schools? For nearly two centuries controversies over this question have raged in the United States, Canada, Great Britain, France, Belgium, the Netherlands, and other countries, generating a great deal of emotional heat, interfering with educational progress, and causing bitter social divisions.

In the last dozen years or so, the controversy has embroiled Congress and half of our state legislatures as intensive campaigns have been waged to get laws passed to provide federal or state aid directly or indirectly to parochial and private schools. Victories for the "parochiaid" lobby have invariably led to litigation. There have even been six state referendum elections on the issue in the last six years (New York in 1967; Michigan and Nebraska in 1970; Maryland, Oregon, and Idaho in 1972). State aid for nonpublic schools was voted down decisively in each instance despite the fact that in each the parochiaid lobby outspent the anti-parochiaid coalitions by very wide margins.

(Parenthetically, it might be mentioned that in the most recent school year for which we have complete figures, 1970-71, of the 51,175,089 students in U.S. elementary and secondary schools, 89.7% attended public schools and 10.3% attended nonpublic schools, with 82.8% of the latter attending Roman Catholic schools.[1])

As spring arrived in 1973 parochiaid battles were occurring in the Hawaii, Kentucky, Maryland, Massachusetts, Missouri, Nebraska, Washington and Wisconsin legislatures. But the most significant action is taking place in the courts and in Congress. The House of Representatives is considering a proposal, H.R.49, to provide approximately $1 billion annually to nonpublic schools through the device of federal income tax credits to reimburse parents for nonpublic school tuition. The current proposal would reimburse parents for 50% of tuition up to a maximum credit per student per year of $200. The President has supported this proposal vocally and frequently, and the powerful lobby working for passage of the plan claims that it has enough votes to get it through the House.

The whole question may be rendered academic, however, by the United States Supreme Court, which appears to be an immovable block in the path of the advocates of public aid for nonpublic schools. In 1971, in *Lemon v. Kurtzman* (403 U.S. 602), the Court struck down as unconstitutional Pennsylvania and Rhode Island programs of aiding parochial and private schools through the "purchase of secular educational services" and "teacher salary supplement" gimmicks. In 1972, in *Wolman v. Essex* (93 S Ct. 61), the Court found the tuition reimbursement plan unconstitutional. Meanwhile, a three-judge federal district court in Vermont acted in 1972, in *Americans United v. Oakey* (No. 6393, 40 U.S.L.W. 2597, D. Vt.), to strike down a state law providing for the "lending" at public expense of teachers, books, and other services to nonpublic schools. This ruling was not appealed. The Supreme Court also ruled in 1972, in *Brusca v. Missouri,* that a state's refusal to provide aid to nonpublic schools does not violate the parents' free exercise of religion or deny them due process or equal protection of law.

With most major parochiaid plans shot down by the courts, the parochiaid advocates seem to view the tax credit tuition reimbursement method as their last and best hope. This plan, however, is at this moment before the Supreme Court on appeals from three-judge federal district court rulings in Ohio and New York. The Ohio court found the plan to be unconstitutional in 1972 in *Kosydar v. Wolman,* while the New York court upheld a similar plan in 1972 in *Pearl v. Nyquist.* The Supreme Court will probably rule in these cases before summer.

If the tax credit tuition reimbursement plan is struck down, the parochiaid lobby may attempt to seek an amendment to the United States Constitution to allow such aid. Alternatively, it may fall back on "shared time" or "reverse shared time" plans. These involve having public schools take over part of the nonpublic school teaching load, either by bringing nonpublic students into the public schools for part of the day or by sending public school personnel into specially leased space in the nonpublic schools. The latter plan, known as "reverse shared time," is currently being challenged by Americans United in federal courts in Michigan, Kentucky, and New Hampshire, and by the American Civil Liberties Union in Oregon.

We should note, at this point, that successful litigation to end programs of public aid for nonpublic schools has rested on two pillars, race and religion. Following the Supreme Court's 1954 *Brown* decision against racial segregation, several state legislatures attempted to preserve segregation by various devices for providing state funding for private schools. These plans were all quashed because they involved government in sponsoring racial segregation. The courts were not confused by ingenious indirect or "parent aid" gimmicks. Following the racial segregation cases, the federal courts took on the problems of public financing of the religious schools which enroll over 90% of the students in nonpublic schools. In *Lemon* and *Wolman* the Supreme Court struck down state aid to nonpublic school plans on First Amendment grounds. The Court in these cases spoke of "excessive entanglement" between religion and government, of the sectarian nature of the schools aided, of the transparency of devices to circumvent the constitution, of the potential for political division along religious lines, and of the limited and sectarian nature of the class of beneficiaries of the legislation *(Wolman)*.

ALTERNATIVES AND COSTS

While waiting for the Supreme Court and lower courts to rule on tax credit, "reverse shared time," and other parochiaid plans, we can turn to an analysis of the alternatives for nonpublic school finance and of the economic and social costs of these alternatives.*

There are only two basic policy alternatives for public financing of nonpublic schools. We can either provide no public support for nonpublic schools, or we can provide some support. If the latter course is followed, it should be obvious that there will be prolonged and perhaps even permanent controversy over *how much* aid will be provided. If some aid is provided the nonpublic school lobby will surely exert tremendous pressure for greater and greater support, moving toward parity of public support with the public schools. The experiences of Canada, Britain, the Netherlands, Australia, Belgium, and other countries bear this out. One obvious social cost of the struggle over the *if* and *how much* of public aid for nonpublic schools is the religious, class, and racial divisiveness that it causes.

THE COSTS OF TAX AID TO NONPUBLIC SCHOOLS

Before dealing with the possible economic costs of providing public aid to nonpublic schools, we need to examine the claim that such aid would make economic sense because nonpublic schools can be operated more cheaply than public schools. While secular private schools generally cost more to operate than public schools, it is true that in actual dollars paid out, denominational schools up to the present time have generally operated somewhat more cheaply than public schools.

The reasons for this are not hard to find. A great many parochial schools have less favorable teacher-pupil ratios than public schools. Some, with small enrollments, mix several grade levels together in one room. Church-related schools pay teachers lower salaries than those paid by public schools; in the case of Catholic schools, teachers and administrators were traditionally nuns and brothers paid bare subsistence wages, and these underpaid people, while their numbers are dwindling, still account for about half of Catholic school teaching personnel. Nonpublic schools are generally academically selective, especially on the secondary level, and thus have fewer hard to teach or problem students than the public schools. Further, nonpublic school programs generally fall well behind the public schools in providing expensive vocational, arts, remedial, driver education, physical education, guidance, and other enrichment offerings. No wonder parochial schools claim they are cheaper to operate!

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*In the period since this paper was presented the Supreme Court has ruled unfavorably on the "tax credit" option.

But if nonpublic schools upgrade their programs, services, salaries, and teacher-pupil ratios to compare favorably with public school programs, their costs will match those of public schools. They would probably even exceed public school costs because of the obvious economies of scale enjoyed by the public schools. The various nonpublic schools operating in our metropolitan areas generally serve smaller and more widely scattered populations, and therefore are less efficient and require more expensive and extensive transportation services. This was admitted with regard to Catholic schools in early 1972 by the Rev. C. Albert Koob, president of the National Catholic Educational Association. "By 1980," Koob reported, "we'll be lucky if we can keep the cost under $1,000 for an elementary school student and $2,000 for a high school student."[2]

The average public school per pupil cost for 1972-73 is $1,034 for pupils in Average Daily Attendance, or $966 per pupil in Average Daily Membership.[3] If the tax credit parochiaid scheme is upheld by the courts and passed into law by Congress and state legislatures—as credits against federal and state income taxes, not to mention credits against property and sales taxes, as in the Ohio program struck down in *Kosydar*—it is easy to see that more than $5 billion annually could soon be flowing to nonpublic schools. This figure, then, would be the cost of tax aid to nonpublic schools. This sum would be available for nonpublic schools only by raising taxes or by cutting other public programs, such as public education.

This $5 billion figure assumes that nonpublic enrollment would remain at five million students. It is more likely, however, that massive tax aid to nonpublic schools would cause these to expand and proliferate, for a variety of religious, racial, and other reasons. A Gallup study in 1969, while showing that Americans oppose tax aid for nonpublic schools by a margin of 59% to 37%, showed also that, *if nonpublic schools were free,* 40% of parents nationally and 59% of parents in metropolitan areas would prefer to place their children in parochial or private schools.[4] Thus, not only could public aid to nonpublic schools cost American taxpayers an additional $5 billion annually, but it would probably destroy the American public schools. This is precisely what happened when the public treasury in the Netherlands was opened to the parochial schools 50 years ago.

Parochiaid, then, could rather quickly cost Americans billions of dollars annually and destroy our public schools. But the financial and social costs of parochiaid would be even higher. Splintering and balkanizing education into a multiplicity of larger or smaller sectarian, racial, ethnic, ideological, and other sorts of enclaves would surely reduce overall educational efficiency and raise overall educational costs.

Socially, this fragmentation would increase the divisions and centrifugal forces straining the seams of our society. Government sponsored and supported sectarian segregation in education in Northern Ireland is an obvious example of where this can lead. Since parochial schools tend to closely approach 100% denominational homogeneity of faculties and student bodies, (Catholic schools are 97.3% Catholic in enrollment[5]; Protestant and Jewish schools are similarly homogeneous) it should be obvious that tax support for nonpublic education would deprive increasing numbers of students of the healthy pluralism, diversity, and religious neutrality of our public schools.

In addition, nonpublic school aid would subject all citizens to taxation for the support of private schools which are, in theory and practice, religious institutions. It would also tend to increase interfaith tensions both in legislative bodies and in our communities.

Further, the tax credit parochiaid plan would aid only those nonpublic schools serving families above a certain poverty level. It would be of no benefit to nonpublic schools serving the poorest families in our society. This plan would cause worse class cleavages than most other aid plans.

The financial, social, and educational costs of a policy of public support of nonpublic education are thus seen to be quite high.

THE COST OF A NO-AID POLICY

What would be the financial and social costs of a policy of no public aid for nonpublic schools?

First of all, nonpublic schools are not going to close wholesale if public aid is not granted them. Further, they will probably continue their slow and gradual decline until they reach a lower plateau. According to the Notre Dame study done for President Nixon's Commission on School Finance, total nonpublic enrollment is expected to decline approximately 46% between 1970 and 1980.[6] This decline will involve a Catholic school enrollment drop of about 52% for the decade and a non-Catholic nonpublic enrollment decline of about 2.5 million students by 1980. Some of this decline will be due to lower birth rates, but the bulk of it will be due simply to changing parental preferences.

This nonpublic enrollment decline, which began around 1965, should produce no burdensome costs, however. Birth rates have dropped so sharply in the last five years that transfers from nonpublic to public schools are being and can be readily absorbed. During the twelve year period during which our present school population was born, 1954-66, births averaged 4.13 million per year. But from 1966 to 1972 the average number of births per year fell to 3.6 million per year.[7] (The Catholic birth rate, incidentally, is falling more rapidly than that of the general population, due to a widespread but belated acceptance of birth control.) According to the latest N.E.A. figures, the total school age population slid from 52.5 million in July 1970 to 51.78 million in July 1972, a decline of 718,000 children or 1.4%.[8] And while students were shifting from nonpublic and public schools from 1971-72 to 1972-73, total public school enrollment fell from 45,887,695 to 45,821,743, a drop of 65,952. According to Martin A. Larson's 1972 study *When Parochial Schools Close*, total school enrollment, public and nonpublic, in 1979 should be less than 47 million.[9] Thus all expected shifts of students from nonpublic to public schools should be rather easily accommodated in our public schools, with room to spare.

The percentage of students in nonpublic schools varies, of course, from state to state and within states. New York, with 17.7% of its students in nonpublic schools, would seem to be the state with the biggest adjustments to make. Yet Governor Rockefeller's Fleischmann Commission reported in 1972 that it would be $415 million cheaper for New York State to absorb parochial school transfers into public schools between 1972 and 1980 than to provide state aid sufficient to make up projected parochial school deficits.[10] The Fleischmann Commission strongly recommended against providing state aid to nonpublic schools.

Shifts of students from nonpublic to public schools will not only be accommodated to greater or lesser extents in existing public classrooms, but state funds will be automatically redistributed to ease any burdens on the local tax structure. Of course, as the Supreme Court agreed when it reversed *Rodriguez* in March, most state school finance systems need reform. Increasing the percentage of a state's children in public schools will surely increase public pressure for such reform. It should also lead to pressure for legislation to secure special state and/or federal aids to school districts facing abnormal enrollment increases. Such "influx aid" was recommended by the Fleischmann Commission.

It seems safe to conclude that the shift of 2.5 million nonpublic students to public schools by 1980 should require little or no outlay of additional public funds.

The social effects of the expected shift of students from nonpublic to public schools should generally be beneficial. Interfaith, intrafaith, and community tensions and conflicts over parochiaid proposals and legislation should diminish. Communities should pull more closely together. Interfaith and interracial contacts among children should increase. Increasing the percentage of a community's children in public schools should increase parental pressure for educational reform and for more adequate funding for public schools. School bond and millage referenda should pass more easily. Parents of former nonpublic school children will be relieved of the burden of tuition payments. Churches abandoning parochial schools will realize savings which can be applied to religious education and other church endeavors. Qualified former nonpublic teachers can be hired by public schools, while suitable nonpublic school buildings can be purchased by public school districts. Shifts of children into public schools should make education more efficient and reduce the expenses of school transportation, since about half of the states provide some form of tax-paid transportation for nonpublic schools.

Concern for various alternatives in education can be met within a public school system, as the San Jose, California, experiment funded by the OEO is demonstrating.

Nonpublic schools will undoubtedly survive in some strength so long as they meet the strongly felt needs of their patrons and sponsors. Consolidations and reforms of nonpublic schools should enable them to operate more economically and to draw greater tax-deductible support from their patrons. Nonpublic schools should engage in more cooperative endeavors among themselves.

In summary, I believe that the vast majority of informed persons would have to agree that a policy of providing public aid to nonpublic schools would have unacceptably high financial, social, and educational costs, while confining public support to public schools will prove in the long run to be the most economically, socially, and educationally desirable policy.

FOOTNOTES

1. *Statistics of Public Schools, Fall 1970,* U.S. Office of Education, Washington, 1971; *A Report on U.S. Catholic Schools 1970-71,* National Catholic Educational Association, Washington, 1972; *Bulletin on Nonpublic Schools and Enrollment 1970-71,* National Center for Educational Statistics, 1972.
2. *Church & State,* March 1972.
3. *N.E.A. Reporter,* March 1973.
4. *Church & State,* December 1969.
5. *A Statistical Report on Catholic Elementary and Secondary Schools for the years 1967-68 to 1969-70,* National Catholic Educational Association, 1970.
6. Office for Educational Research, University of Notre Dame, *Economic Problems of Nonpublic Schools,* 1971.
7. *Church & State,* September 1972.
8. *N.E.A. Reporter,* March 1973.
9. Larson, Martin A., *When Parochial Schools Close,* Robert B. Luce, Washington–New York, 1972.
10. *The Fleischmann Report on the Quality, Cost, and Financing of Elementary and Secondary Education in New York State, Volume I,* Viking Press, New York, 1973.

"Equal Justice Under Law" And School Finance:

An Appreciation of San Antonio Independent Schools v. Rodriguez

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San Antonio Independent School District v. Rodriguez is the latest chapter of a saga which might be described as the elevation of the American dream to a principle of constitutional law. The legal form of the dream is the right to equal educational opportunity.

In undertaking to give vitality to that right, our courts have, as perhaps never before, expressed an ideal which lies at our nation's heart. That every child should have a fair opportunity to rise above his humble origins and claim the rewards that his efforts and abilities deserve is the essence of the American tradition. It is perhaps our highest expression of the Judeo-Christian ethic preached from our pulpits. It is the message of the Statue of Liberty and the feature of our national ideology which most commends us to people around the world. It is an idealism that was powerfully activated by the events surrounding World War II, as we reacted against the despotic racism of our adversaries, and gained heart that we might, collectively as well as individually, attain almost any goal by sufficient national effort. It is an ideal that forms the best reason for our vast commitment to public education. It is the best basis for our national self-esteem.

Ennobling as such idealism is, it is to be expected that the principle of equal educational opportunity has gained a powerful hold on those who are privileged to devote their careers to the most exalted of our political institutions, the Supreme Court, which, even over its portals, proclaims its commitment to "equal justice under law." Yet in the most recent and much-noted decision of the Court in *Rodriguez*, the argument for equal educational opportunity failed to carry the day. Some have seen the decision as a major reversal of the Court's commitment to the ideal. This view is somewhat supported by the fact that the decision was made in accordance with party lines, the five Republicans rejecting the egalitarian position, and the four Democrats accepting it. On the other hand, there are a number of circumstances which suggest that such an interpretation is unsound.

As a proposition of federal law, the right to equal educational opportunity is derived entirely from the clause of the Fourteenth Amendment which forbids the states to deny their citizens the equal protection of the laws. That amendment was, of course, adopted for the rather explicit purpose of assuring that the newly freed black citizens in the South would not be disadvantaged by the laws of the states. By its terms, the equal protection clause grants no particular rights to any citizens; rather, it speaks to how the legislatures may classify them for purposes of conferring rights and duties of a substantive sort.

For most of its history, the equal protection clause has been little used. It was given new vitality by the Warren Court, beginning with perhaps its most important decision, *Brown v. Board of Education*, the case which first recognized a right to equal educational opportunity. "Today," Chief Justice Warren then said, "education is perhaps the most important function of state and local governments. Compulsory school attendance laws and the great expenditures for education both demonstrate our recognition of the importance of education to our democratic society. It is required in the performance of our most basic public responsibilities, even service in the armed forces. It is the very foundation of good citizenship. Today, it is a principal instrument in awakening the child to cultural values, in helping him for later professional training, and in helping him to adjust normally to his environment. In these days, it is doubtful that any child may reasonably be expected to succeed in life if he is denied the opportunity of an education. Such an opportunity, where the state has undertaken to provide it, is a right which must be made available to all on equal terms." The Chief Justice further explained that the separation of the black children by the state "generates a feeling of inferiority as to their status in the community that may affect their hearts and minds in a way unlikely ever to be undone." It was clear that the Court in *Brown* regarded the educational system as the linchpin of the caste system, which the Fourteenth Amendment was intended to dissolve, and which postwar America was determined to break.

The *Brown* decision was, of course, more than a judicial decision; it was a battle cry for a social movement which touched the lives of all of us. Schools and children were a central focus of that movement. It is perhaps useful to recall that ten years ago next month, the greatest champion of that movement, and perhaps the greatest Atlantan, thundered his peroration to the Civil Rights March of 1963 by predicting from the steps of the Lincoln Monument that on the red hills of Georgia, black children and white will soon join hands to sing a hymn to their dual liberation.

But, by the time of his assassination almost exactly five years ago tonight, the movement led by Martin Luther King had changed its focus. Social, political, and legal change seemed to require economic change. The Civil Rights March gave way to the Poor Peoples' March and Resurrection City. King's presence in Memphis on that fateful day, at the side of the garbage workers, bore testimony to his own change in goals. As the civil rights movement became a war on poverty, it lost some of its sharpness of focus; but it gained some additional strength by broadening the base of its appeal to include chicanos, Indians, Appalachians, and the urban poor.

The equal protection clause developed with the social movement and the mid-sixties witnessed the beginning of a series of cases upholding the rights of indigents. It was certain that the Court would have to consider the relevance of the right to equal educational opportunity to poverty. The issue first took shape in the minds of many of us with the publication of a book by Arthur Wise which bore the arresting title, *Rich Schools, Poor Schools.* Wise and others brought to our notice the significant disparities which had developed in the taxable resources available to the nation's many school districts. As you are well aware, our schools have always been financed, to varying degrees, but in almost every state by a locally imposed tax on property. Because this fact, together with the differing propensities of local districts to tax themselves, produces great disparities in school spending, the relevance of Chief Justice Warren's rhetoric about equal educational opportunity was obvious. On the face of it, a five hundred dollar education is not equal to one that costs three times that much, and it is easy to assume that the children receiving the cheap education are the poor who most need the help of public schools if they are to participate in the national ideal.

The first efforts to invoke the right on behalf of poor children were unsuccessful. Counsel representing school districts which served the urban poor filed a series of suits seeking to compel the states to provide additional funds for the education of poor children who were adversely affected by the increasingly common problem of school failure, which was and is plaguing the urban schools. The first of these cases to reach a decision was that brought in Illinois and the trial court dismissed it, finding that it had no plausible basis for defining the limits of the plaintiffs' needs for additional money. The Warren Court summarily affirmed.

It was at this point that a small group of scholars led by Professor Coons of the University of California presented the theory which was argued by the *Rodriguez* plaintiffs. They contrived to escape the apparently insurmountable problem of giving legal definition to the fiscal needs of schools by recasting the right to equal educational opportunity in a different form which would require no judicial measurements of need. They succeeded by expressing a negative principle or a prohibition, which might be expected to permit the courts to apply the egalitarian criterion of the Fourteenth Amendment without appraising the sufficiency of any appropriation. The states might, according to their conception, use any formula for the distribution of school money, provided that the distribution not be keyed to the wealth of the district in which the school children live.

There can be no doubt of the great charm of this "no wealth" principle. It can be simply stated, rather simply applied, and is faithful to the rhetoric of equal educational opportunity. Moreover, it is presented as conservative in the sense that it involves very little political judgment by the courts and leaves a substantial range of freedom for state legislatures in choosing systems of school finance. In a truly remarkable triumph of legal scholarship, the concept was quickly grasped by the Supreme Court of California last year in *Serrano v. Priest*. Despite the fact that the school finance systems of every state but Hawaii were subjected to fundamental challenge, the decision was widely hailed on all sides. The press, legislative groups, educators at all levels in the administrative hierarchy, and taxpayer organizations were all enthused. Liberal civil rights adherents rejoiced at the apparent triumph of egalitarianism and conservative property owners rejoiced at the apparently impending demise of the local property tax. A series of lower federal courts adhered to the *Serrano* decision, including the court which initially decided the *Rodriguez* case, and a state trial court in New Jersey. And, most recently, the Supreme Court of Michigan reached the same result, although departing from the formulation of principle presented in *Serrano*.

The legal analysis which underlies the no-wealth principle can be summarized. As presented by Professor Coons and his associates, it rests upon the principles of equal protection which were developed by the Warren Court. Prior to the *Brown* case, the traditional test of propriety of a legislative classification challenged under the equal protection clause had been whether it rationally served a legitimate legislative purpose. The Warren Court excepted from this generally permissive test certain kinds of legislation which were said to be subject to strict scrutiny; this meant that the legislation in question would have to be justified by a "compelling state interest," a justificaion which almost always proved impossible to supply. Whether a particular law was subjected to strict scrutiny, or the more relaxed traditional test, depended on whether it affected a fundamental interest of the citizens classified, or whether it made an invidious or suspect distinction in its classification.

While both terms, "fundamental interest" and "invidious discrimination" are somewhat problematic, Professor Coons and his associates argued that traditional school finance systems involve both: the children of poor districts are, he and his colleagues assert, denied a fundamental interest by a suspect classification as long as the quality of their education is a function of local wealth.

It was important first to establish that education was a fundamental interest different from other services provided by local government, lest the plaintiffs be said to be striking at the foundations of the whole of local government. They feared to be asked whether their analysis of equal protection would require that all services now provided by local government be equalized statewide. The Supreme Court had relied upon the fundamentality of the interest involved to apply strict scrutiny to state laws affecting the rights of indigents to counsel in criminal proceedings, to travel, and to vote in state elections. Although tendering other make-weight distinctions, Professor Coons and his associates ultimately sought to liken the right to education to the right to vote and the right to counsel, and to distinguish it from the right to sewers and police protection, primarily on the ground that education is essential to the exercise of other constitutional rights, such as the right to vote and the right to speak, and is therefore fundamental. This analysis carried the day in the Supreme Court of California.

Secondly, it was contended that the Texas system of school finance involved a suspect or invidious discrimination. The concept of invidiousness arose in cases involving racial discrimination, but has been invoked in cases which involved legislation which was deemed burdensome to indigents. It was never asserted that the plaintiffs in the school finance cases were themselves indigent. Rather it was asserted that the disadvantages created as a result of the inequities of school finance fell indirectly more heavily on poorer citizens than wealthier ones, because the latter were better equipped to take evasive action. Richer citizens may, indeed, choose to live in richer districts, whereas poor ones are less able to do so.

Indeed, two Justices were persuaded that school finance legislation should be subject to strict scrutiny. In supporting the contentions of the plaintiffs, Justices Marshall and Douglas agreed that the plaintiffs asserted a fundamental interest in their right to an education and that the classification was suspect. Justice Marshall asserted that discriminations based on group wealth, as distinguished from the individual wealth discriminations involved in the indigency cases, were the more grave because they were even further beyond the control of the individual or his family. Moreover, he emphasized, it will be as difficult for citizens of poor districts, as for indigent citizens, to invoke the state's political process to obtain redress because they will be opposed by those who benefit from the existing scheme of distribution.

As to the third possible issue to be raised under the Warren Court's formulation of the strict scrutiny test, the State of Texas conceded that there was no compelling justification for the existing scheme of Texas school finance. Thus, if the plaintiffs had prevailed on the fundamental interest and invidiousness arguments, they might have prevailed forthwith.

But only two Justices were willing to adhere to the analysis so carefully and imaginatively provided by counsel. There were, however, two other Justices, White and Brennan, who were prepared to vote with the plaintiffs, in favor of the claim to equal educational opportunity. In an opinion by Mr. Justice White, they invoked the more traditional language of equal protection cases and declared the Texas school finance system to be irrational. Texas argued that the system reflected a compromise between the obligation of the state to provide an education and the right of local communities to spend their own money on their own children. This was rejected on the ground that the system was not a plausible method to effectively promote local control of schools. Justices White and Brennan did not go so far, it may be noted, as Justices Marshall and Douglas; the latter Justisces declared that the Texas contention was bogus, being belied by the lack of actual control exercised by local school boards in that state. But Justice White did emphasize that Texas had not been as earnest as it might have been about local control because there is, indeed, very little local control to be exercised over school spending in a district which has few taxable resources. Although they did not themselves take notice of the fact, the analysis used by Justices White and Brennan seems to demand less justification by the state of its legislation than the strict scrutiny test of the Warren Court would require, but more than would have been required by traditional equal protection law. Their opinion reflects a trend of the Burger Court to develop an intermediate position between strict scrutiny and the traditional minimal rationality test. Justice White's opinion would seem to apply with equal force to other local government activities, but would not proscribe all wealth relationships. His opinion was to some degree anticipated by that of Justice Mennen Williams of the Michigan Supreme Court.

What can now be said of the application of the right to equal educational opportunity to school finance? Has the no-wealth principle been subjected to a mere delay in its meteoric rise, so that further consideration, or a few Democratic appointments to the Supreme Court, will assure its acceptance? May it nevertheless continue its sweep through the state courts? My guess is that the no-wealth principle has had its day in the sun, regardless of the political composition of the courts to which it is proposed. Indeed, I am doubtful that the efforts to judicialize the state systems of school finance will be rewarded with many more victories in the foreseeable future, until another and yet sharper analysis can be provided which will be less drastic and more responsive to the historic aims and values of the Fourteenth Amendment than any which has yet emerged. Such an analysis will also have to be supported by stronger proof than has so far been adduced.

The *Rodriguez* case was lost not because five Justices are insensitive to the American dream and its legal embodiment, but because the application of that idealism in the manner proposed did not stand close inspection. Despite its charm and strong ethical base, the no-wealth principle suffers from the following frailties:

(1) the children who would benefit from its application may not be those who need help to overcome difficulties of caste or class;

(2) the children who would benefit may not benefit in durably significant ways;

(3) the primary beneficiaries may be teachers and other school employees;

(4) the secondary beneficiaries may include land speculators and the secondary losers may well include the urban poor;

(5) its application would impose a general drain on the public

fisc, very probably requiring the diversion of public monies from other important and desirable services;

(6) its application might eliminate the last vestiges of effective local control of educational policy;

(7) its enforcement could lead to a constitutional crisis.

Some of these considerations have direct legal significance; others are of greater practical than doctrinal importance. Some, but not all, are identified in the Court's opinion in *Rodriguez*, which was prepared by Justice Powell. It seems likely that each of them influenced the decision in some measure. As these considerations become more widely understood, the no-wealth principle seems likely to lose support, because the consequences described are cause for concern to all of us without regard to party affiliation. And these consequences are becoming increasingly apparent. Many are visible in the report of the Select Senate Committee of California, which has published its study of post-*Serrano* school finance. Some are visible in the New York Fleischman Commission Report. Some are visible in the events occurring in California, Michigan, and elsewhere.

The first, and perhaps the most important, fact that is becoming increasingly apparent is that the children who are served by poor school districts are not generally otherwise particularly disadvantaged. Obviously, this fact, if it is a fact, bears heavily on the legal contention of the plaintiffs that they are the victims of invidious discrimination. If, as seems intended, the idea of invidiousness is that the Fourteenth Amendment should be given more rigorous application to protect those who are in special need of protection because of their general social, economic, and political disabilities, the children of poor districts are not such a class.

The plaintiffs in *Rodriguez* did make an effort to establish that they were relatively poorer than the residents of wealthier districts. Their evidence took the form of an affidavit by Professor Berke of Syracuse who had classified a number of Texas districts according to median incomes. Indeed, the poorest group of districts had the lowest median and the richest group of districts had the highest, but the differences were not dramatic and the middle groups were reversed, the second richest group having the next to lowest median income level. More detailed studies of Connecticut and Kansas districts tend to indicate an inverse correlation between individual poverty and the wealth of the taxing district. The *Yale Law Journal* has already concluded that "the popular belief that the poor live in poor districts is clearly mistaken."

This point gains force as we consider the problem of urban school failure in its relation to the problem of school finance. Thus, the California Senate Committee identified five urban districts as the scene of much of the school failure problem in California. None of the five would have been helped by a significant increase in funds available for general use by either of the plans proposed by the Committee Report. And one, San Francisco, would undergo a substantial deprivation: its funds available for unrestricted use would, under either plan, have decreased from over $1700 per pupil to about $1100. By means of a substantial increase in categorical aid and a hefty special local tax which would have been permitted, San Francisco might have to keep its school spending at a level within $150 of its present level. There appears to be no practicable way of complying with the no-wealth principle without taking public money away from San Francisco, which is one of the places in the state where it is most needed. Similarly, in Michigan, any process of equalization is almost certain to reduce or limit school spending in the southeastern quadrant of the state, where most of the school failure problems exist, in order to increase spending in the northwest, where school achievement levels are highest.

The character of the population of poor districts is troublesome on three additional counts. One is that the wealth of the district is partly dependent on property assessment practices which are by no means uniform in many states. To the extent that a community suffers its taxable resources to be undervalued, it is difficult to see it as the victim of invidious discrimination by the state. A second is that it is becoming increasingly difficult to accept as a standard of relative deprivation any financial criteria which proclaim the rural population to be the disadvantaged. A rural dollar and an urban dollar are not the same, either in value or social significance. While the no-wealth principle does not necessarily require that such dollars be treated as equal, it would create momentum for such an assumption. Thirdly, it is true within metropolitan areas that the residents of poor districts are partly self-selected. The economists who adhere to the pure analysis of Professor Tieboldt tell us that differing levels of taxation and public spending within a metropolitan area assure freedom of choice to individuals and optimize the utilization of public services as each family chooses the combination of taxes and services best suited to it. To some extent, at least, this pure theory does work, and to the extent that it does, it is hard to see those families who choose a poor district as the victims of invidious discrimination. In many metropolitan areas, even the poorest citizens can afford to live as well in a high valuation district as a poor one, if they are willing to live close to industrial land users.

The plaintiffs contrived to overcome this weakness in their case by emphasizing that there are at least some poor, indeed indigent, children among the groups which are disadvantaged by the uneven distribution of school money. There must, indeed, be some poor children who get less school service because their parents, who exercise very little control over their lives or the lives of their children, reside in underfinanced districts rather than overfinanced ones. Justice Powell did not respond directly to their plight, although a concern for such children is a major preoccupation of the dissenters Marshall and Douglas. One reason for not doing so is that the no-wealth principle logically extends far beyond this beleaguered group to benefit many who can make no such claim to justice, at the cost of many who can make similar claims. A second reason is that it is wholly unmanageable for the Court to attempt to require the states to correct every situation in which the law creates burdens that are more heavy, or rights which are less available to the poor than the rich. To decree that all indirect discriminations against poorer citizens must end would be to decree nirvana. As Justice Stewart, in his special concurence, notes: "There is hardly a law on the books that does not affect some people differently from others." And it is the very nature of individual wealth that it empowers the possessor to gain access to some services, including those provided by governments, and to avoid or bear easily some burdens imposed by governments. Most of the criminal law, and most of the private law, inevitably falls harder on the less wealthy. One recalls Anatole France's epigram about the law, in its majestic equality, forbidding both rich and poor to sleep under bridges.

Thus, despite the efforts of plaintiffs to describe their plight as poignant, the fact is that they bear little resemblance to the plaintiffs in the *Brown* case who established that they as a group were harmed by the badge of inferiority which was placed on them by their segregated schools. As Justice Powell proclaimed, "The system of alleged discrimination and the class it defines have none of the traditional indicia of suspectness: the class is not saddled with such disabilities, or subjected to such a history of purposeful unequal treatment, or relegated to such a position of political powerlessness as to command extraordinary protection from the majoritarian political process."

A second problem is that the benefits to be derived by the children of poor districts from the application of the no-wealth principle seem likely to be marginal. It will be recalled that the plaintiff's analysis depended, in part, on a characterization of the interest they assert as "fundamental," and hence entitled to special constitutional protection.

The plaintiffs sought to carry the day on this question by describing their interest as the right to an education. While the California court had accepted that characterization in the *Serrano* case, the Supreme Court in *Rodriguez* did not. Justice Powell was alert to point out that the plaintiffs were being provided with an education, one which the state, at least, described as "adequate"; what the plaintiffs sought was a more expensive education. It is noteworthy that the injury they complain of is the reverse of that asserted in the *Brown* case. Where the *Brown* plaintiffs conceded that the dollars invested in their education were adequate, they complained of the educational outcome, which common sense observation demonstrated to be deficient. In *Rodriguez,* there is no specific grievance about the educational outcome, but only about the level of financial effort by the state. The question can and should be asked, what are these dollars really likely to accomplish for the plaintiffs?

The question of course evokes a consideration of the controversy surrounding the Coleman Report of 1966 on the relation between quality and cost of education. Professor Coons and his associates dismissed that controversy by asserting that, whatever the relation, the poor should have the same right as the rich to be disappointed by the results of school spending. But, that dismissal is a bit abrupt. The plaintiffs' interest ought not be accorded "extraordinary protection from the majoritarian political process" if it is not fundamental, and fundamental implies, at least, that the interest be substantial. One recalls the words of Chief Justice Warren in *Brown* as he expressed concern that the children would be affected in heart and mind "in a way unlikely ever to be undone." Are the *Rodriguez* plaintiffs plausibly so harmed?

The assumption implicit in the Coons analysis is that school spending is an investment in youth which results in increased productivity; to invest more in some children than others thus produces greater lifetime earnings for the advantaged group. The Coleman Report does not, as some people opposed to school spending have suggested, prove that schools cannot so invest to increase productivity if that were their operative goal. But, it does tend to confirm, despite its methodological limitations, an obvious fact which we may have concealed from ourselves by the excesses of rhetoric in school millage elections. This is that schools but rarely try to spend money in a manner that affects the acquisition of basic cognitive skills or other characteristics which might affect the long-term productivity of youth. And there is a very good reason why this is so. It is not because school administrators and trustees are indifferent to the need for acquiring reading and math skills, it is because we really know very little about how to improve them with money beyond that needed for the most rudimentary of school programs. Except for a few publishing houses no one is really trying to persuade education spenders that particular expenditures will materially increase the durable cognitive skills of their children.

What then do rich school districts spend their money on, that is denied to the children of poor districts? The California Senate Committee found that the great bulk goes into the school payroll. About two-thirds of the difference is spent on lowering class size, and another fifth on higher salary scales. It is unlikely that the proportions would differ much elsewhere. We can therefore assume that the primary advantage of attending a wealthier school is that the teacher is better paid and less harried, that there will be somewhat more auxiliary services in the form of school nurses and school social workers, and that there will be a somewhat broader program in such areas as art, music, and athletics. Common sense would seem to say that these expenditures are not, in any economic sense, significant investments in children; rather they are, for most students, consumption items which add to the pleasures of the moment but have very little to do with the children's adult lives. To speak of the largest item, class size, as affecting the minds and hearts of the students in a manner unlikely ever to be undone would be a bit extravagant.

I hasten to add that I do not perceive such expenditures as wasteful merely because they lack durable significance. Like expenditures on public parks or museums or concerts, they enrich the lives of citizens more than comparable private expenditures on liquor, gasoline, or cosmetics. But we would not, for example, regard access to a public golf course as a fundamental interest, and there is no reason to change that assessment because the golf course is operated by a school district rather than a city. To focus more directly on the argument which was embraced by Justice Marshall in his dissent, it is very hard to accept his assertion that children are disadvantaged in their ability to exercise their constitutional political rights and their right to free expression because they attend school in larger classes in a school which has no orchestra, and is staffed by teachers with fewer graduate degrees.

Unfortunately, Justice Powell was moved to go beyond the requirements of the case to declare flatly that education is not a fundamental interest. Taking a bow in the direction of the popular notion of strict construction, he emphasized that education was not a right identified in the federal constitution. On this basis, he distinguished the right to an education from the right to counsel in criminal proceedings or the right to vote or the right to travel. In fact, as Justice Marshall forcefully demonstrates, the Federal Constitution is none too explicit about some of the other interests which have been treated as fundamental by the Court. One might also question whether a strict constructionist ought not be satisfied to find the right to an education in the state constitutions inasmuch as the equal protection clause is addressed only to the manner in which the state classifies rights which it creates. In fact, as Justice Marshall again points out, almost every state constitution establishes the right to an education. It was this excess assertion by Justice Powell which brought forth a special dissent of protest from Justice Brennan. And it seems quite possible that the Court will have to reconsider and withdraw that comment if they are confronted with a case in which the right to an education is totally abridged. Such abridgements have occurred in some southern counties and may occur more frequently in some northern urban areas afflicted with financial crises and labor difficulties. I offer Detroit as a recent close call. Perhaps Justice Powell would propose to deal with such a situation by applying a more flexible test than the Warren Court's strict scrutiny test; such an approach would be consistent with the recent observations and argument of Professor Gunther of Stanford.

The third problem which I identified is but a corollary of the second; yet, it seems to me to deserve some attention. It is that adults, not children, are the likeliest beneficiaries of increased state expenditures in poor school districts. This fact has little legal significance unless it can be said to rationalize the inaction of the Texas legislature in failing to correct the inequity. But it should nevertheless weigh on the minds of those who may in the future appraise the utility of the no-wealth principle.

There is nothing unusual about this phenomenon to those who are accustomed to the problems of mounting an attack on poverty through the public budget. I am told that there is a principle known in Washington as the elephant feeding principle, which dictates that he who feeds sparrows in the elephant pen must supply enough bread to sate the elephants so that there will be leftovers for the sparrows. As the biggest beneficiaries of health insurance are doctors, so the biggest beneficiaries of education expenditures are teachers. Let there be no mistake that teachers are, by and large, useful citizens who deserve to be well paid. But it is far from clear that a program which would equalize the wages and working conditions of teachers has anything to do with the aims and values of the Fourteenth Amendment.

It is useful to recall that almost every teacher in America has an income above the national mean. Devoting public money available for other purposes to increasing teachers' incomes does not increase the general equity of distribution in the society. Indeed, to the extent that the public money is derived from taxes imposed on taxpayers who are less fortunate than teachers, it tends toward the opposite effect. Moreover, it seems likely, although not inevitable, that compliance with the no-wealth principle would tend to raise rural teaching salaries in relation to urban salaries. If so, this would encourage an outmigration of teachers which is hardly welcome, and hardly consistent with the substance of the right to equal educational opportunity.

The fourth problem with the non-wealth principle is also primarily a practical, political one, with a legal significance limited to providing a just reason for legislative inaction. It is that the secondary consequences of adjustments in local tax levels are not necessarily desirable. There is still some truth in the old adage that an old tax is a fair one. Any compliance with the no-wealth principle must have a substantial impact on the rates of taxation in both rich districts and poor. Economists assert, fairly convincingly, that tax levels are at least partly capitalized in the values of land. As tax levels rise or fall, relative land values change. Hence, a decrease in tax levels in poor districts will enrich land speculators there; while a corresponding increase in tax levels in rich districts will be costly to owners there. A shift to a different form of taxation changes the nature of the impact on those whose taxes are increased, but there must, in any event, be an impact on some taxpayers somewhere, who will be the luckless group to take up the financial slack left by mandated tax relief in the poor districts.

It can be imagined that the secondary consequences could be adverse to poor urban children. The possibility is suggested by the recommendations of the California Senate Committee. Under either of the plans suggested by that committee, it was contemplated that San Francisco might raise a special local levy in order to maintain current school spending levels. One plan called for about a 50% increase in taxes on San Francisco property; the other called for about a 70% increase. It seems unlikely that the voters of San Francisco would opt for such precipitous increases. To the extent that they did so, however, it would be at the risk of some loss of marginal industry. It is at least possible that the existence of those jobs in the city is far more important to the educational growth of the poor children of California than any possible result of fiscal equalization could be to the children of poor districts. In any event, whoever may be the winners or losers in such transfers of capital, it seems clear that the consequences have no positive relation with the aims and values of the Fourteenth Amendment.

A fifth difficulty, which is related to the fourth, is that the implementation of the no-wealth principle almost surely requires the development of some substantial new sources of public revenue for education. Indeed, it is no secret that much of the popular enthusiasm for the *Serrano* decision was derived from dissatisfaction with the property tax and an expectation of deliverance from its burdens.

The conventional wisdom is that the property tax is regressive. Indeed, the champion of the conventional wisdom, our President, has said that it is "one of the most oppressive and discriminatory of all taxes." And George McGovern also identified himself with what he described as a property tax revolt.

Unfortunately, those who object to the property tax have not manifested any eagerness to pay other taxes which might be regarded less unfavorably. The voters of Michigan have emphatically rejected new and more progressive taxation. The California Senate Committee resigned itself, with some reluctance, to a primary dependence on the statewide property tax. The New York Fleischmann Commission was unable to unite behind any recommendation as to new forms of taxation.

In fact, the property tax is not as bad as the President proclaims. Its worst features can be remedied, as the California report clearly demonstrates. It is old and we are used to it. And there is reason to believe that the primary bearers of the tax on rental property are landlords, not tenants, so it may not be so regressive. For these reasons, the property tax will surely survive, even if it is de-localized, as may be required in some states, and may result in others.

The real difficulty lies in the fact that the property tax, in whatever form, is not likely to be adequate to meet the demands created by a program of equalization. As can be seen in both the California and New York reports, it is very difficult to contemplate equalizing by reducing the expenditures of rich districts. Thus, new monies have to be found. The California Committee thought that it had developed a workable scheme that could be implemented for under a billion dollars of new school money. They did not say where that money was to come from; six months, they said, was not long enough to solve that problem.

In appraising the practical desirability of the no-wealth principle, it would seem to be useful to know who is going to pay this price. If the cost is to be borne by taxpayers who are less able to bear the cost than those who will benefit, the implementation will be somewhat self-defeating. And, even if the source of the new money is highly progressive, or even if it came from a private donation to the state, there would be the question of whether implementation of the no-wealth principle would be the best use of the available funds. Those who have never participated in the budgeting process are prone to assume that public budgets are infinitely elastic. If only the budget-makers want to, they can find the money for any use. But those with experience know well that, no matter how generous the supply of funds, there are always worthy competing uses to be considered. If the state of California had a billion dollars to spend for the purpose of promoting greater equality, and better social and economic opportunity, it is far from clear that the expenditures suggested by the Senate Committee, or those adopted by the legislature last December, are the best available. Housing and transportation needs, for example, must be compared to the needs for higher teachers' salaries and smaller class sizes in poor districts. Indeed, there is a paradoxical feature of the California report: it proposes to devote a half billion to categorical aid for disadvantaged youth, but the bulk of that money to be directed to the five urban school districts identified as the scenes of much school failure would do little more than offset the funds which are diverted from that district in the pursuit of equalized financing, and they would have been inadequate for that in San Francisco. Obviously, from the point of view of those intended to be benefitted by a compensatory program, it would be more desirable to apply the half billion on top of the existing financial scheme without the other accommodations which seem to be required by the *Serrano* decision.

A lost horizon in the no-wealth discussion has been the historic function of local school boards. Their primary function has been to raise money for public use by persuading fellow citizens to forego cosmetics or liquor in favor of spending on children. Much of the money so raised is not otherwise available for public use because only a local school board is in a position to exploit this somewhat selfish instinct of parents. The biggest beneficiaries of the traditional pattern of local finance have been the poorer children in the wealthier districts, because they have been privileged to share the pleasures of their wealthier neighbors on an equal basis. Thus, within local communities, the system has been a source of social equality. Consumption items like golf and music have been socialized. If school spending is to be standardized, this source of public revenue is eliminated, and the parental spending is diverted into the private sector where economic class lines are sharply drawn.

Let me emphasize this problem by reference to a homely example of concern to me. For many years, the Ann Arbor Schools have devoted three to five percent of their budget to a first class music program, providing instrumental instruction to all children beginning in the elementary grades, and producing school orchestras and choral groups second to none anywhere. This investment of funds has been the result of long-term efforts by perhaps two percent of the parents of Ann Arbor, who care enough about quality music to speak up for it. The result of their efforts has been the enrichment of the lives of many children, some poor, some not so poor, and many from families whose interests in music was outgrown when Tommy Dorsey went off the air. To be sure, this social benefit weighs lightly against the great social needs of our time. No one would choose to spend money on such a program as an alternative to mass transit. But as long as it is the rich people of Ann Arbor (rich culturally, as much as economically) who are willing to pay the price themselves, or who are willing to bear political responsibility for raising the revenue by taxing their neighbors, who is hurt by such expenditures? What kind of egalitarianism is it that compels those super-caring parents to devote their efforts to upgrading private music lessons, where the poor and the musically ignorant will be shut out? The response of some casual equalizers is to direct these parents to Lansing, where they can urge a first-class music program for all the children of the state. Bless them, it would indeed be wonderful to share that program so widely. But in Lansing their voices will be among the smallest of the many clamoring to be sponsored in the state budget. First class, elite, music instruction has no better chance in Lansing than a palm tree. Indeed, even within Ann Arbor, the continuation of the program has been threatened by the reluctance of Ann Arbor Schools to continue spending so significantly above average levels. Perhaps such islands of elitism in the public sector are all doomed, anyway, but it is hard to see that their abolition will, as a practical matter, advance the historic aims and values of the Fourteenth Amendment.

Thus, if the state is unwilling to exploit the protective instincts of middle class parents for a constructive use, others will exploit it for profit. Meanwhile, I would emphasize, money which these parents would not be supplying to the public would be partly replaced by money which must be taken from other public uses, perhaps public transportation or housing. At the least, this would seem to provide a reason for some legislative reliance on the local property tax, sufficient to withstand Justice White's inspection, assuming the foundation grant provided by the state can be demonstrated to provide a reasonably adequate basic program for all children.

The sixth practical difficulty listed was the fate of local control if the no-wealth principle is embraced. It will be recalled that Texas sought to justify its program as a rational accommodation to the need for local control, that Justice White expressed the view that there was no reasonable relation between that policy and the Texas law, and that Justice Marshall challenged the sincerity of the assertion on the ground that there is no local control in Texas, anyway.

The position of Justice White that there is no necessary relation between local financing and the measure of local control is not without support. A study by the Urban Institute found no correlation between the measure of local autonomy and the proportion of school money provided by the states. Experience in Scandinavia confirms that local control can be exercised over centrally provided funds. Nevertheless, common sense indicates that there must be some relation between local control and local funding. While state legislators can take political responsibility for raising the revenue and might refrain from exercising authority over its expenditure, there is steady political pressure to intervene. As Professor Simon of Yale has pointed out, this tendency is likely to be powerfully activated by the probable development of state wide collective bargaining. If the state is the primary source of funds, the economic pressure must be applied at that level, and the bargaining process will prove difficult to contain. Contracts will often control a variety of issues such as class size, level of auxiliary services, tenure practices, and discipline, which are now controlled in significant measure at the local level.

The forecasts are to some extent confirmed by contemporary behavior. State school officials greeted the *Serrano* decision with a unanimity and vigor which bespoke an enthusiasm for egalitarianism not theretofore revealed by their actions. Their instinctive reach for power seems also to be reflected in the New York Fleischmann Commission report. That report advocates full state funding as a means to greater equality in education, and also strongly advocates greater community control over education. One of the arguments advanced for full state funding is that it will enable the state to exercise greater control over how the money is spent. Insensitive to any paradox, the report then elaborates, for hundreds of pages, new standards to be imposed on local schools, including some requiring greater community control.

Concern for local educational autonomy is also confirmed by the advocates of the no-wealth principle themselves. It will be recalled that a major reason for the efforts of Professor Coons and his associates to identify the interest they sought to advance as fundamental was to leave the rest of local government in tact. Moreover, they also went to considerable length to develop an alternative method of school financing which they have advanced as a more constitutional method of preserving local choice of school spending levels. This system, known as District Power Equalization, would, in short, move funds from richer districts to poorer districts in such a way that a dollar of tax would produce the same return in school spending wherever it is collected, each district receiving an equal public fisc for equal tax effort. As Justice Powell noted, however, this method of finance has not been tried. Is it not clear that it would work, that it is politically viable, or that it is, indeed, really consistent with the no-wealth ideal inasmuch as spending discrepancies would remain and might be more closely linked to median family incomes within districts. In addition to District Power Equalization, Professor Coons is laboring to develop other methods of promoting local control in state-funded schools.

Given all these circumstances, it is very difficult to agree with Justice White that there is no reasonable relationship between local control and the use of a local finance base. It is equally difficult to agree with Justice Marshall that local control of education in Texas is a sham. As Justice Powell noted, the local districts in Texas do retain the power of eminent domain, the power to choose school sites, the power to hire and fire teachers, the power to maintain discipline, and, most relevantly, the power to fund or not to fund a variety of educational programs. Justice Powell was correct in finding that the Texas system was a rough accommodation of the conflicting forces identified by Professor Coleman of Johns Hopkins as: "the desire by members of society to have educational opportunity for all children, and the desire of each family to provide the best education it can afford for its own children."

On the other hand, it seems timely to question the desirability of the goal of local control. This is an heretical question, but a relevant one nonetheless. It is a fairly well established feature of American politics that minority interests are more heavily weighed in decisions made in larger units of government. There are several apparent causes for this phenomenon. One is that smaller groups tend to produce more stable political organizations which are less dependent on the support of marginal minorities. Another is that smalltime political activities attract less attention and are thus the preserve of the most attentive constituency, which tends to be the majority groups. It is, thus, hard enough to turn out minority voters in a presidential election, and almost impossible in a school board election. Accordingly, although there will be local exceptions, effective programs of compensatory education are more likely to emerge from statewide policymaking than from local policymaking, and still more likely to emerge from federal policymaking. Reduction of local influence on schools might, indeed, be the most benign consequence of the implementation of the no-wealth principle, but it is the consequence which its authors are at the most pains to minimize or prevent.

Thus, it is especially painful to read the suggestion advanced in both the California Senate Committee report and the New York Fleischmann Commission report that local school boards will be relieved of the onerous duty of raising money so that they can devote more time to school policy. This is wisdom reversed. If school politicians like myself, and their camp followers, had solutions to the problems of school failure which beset our most needful children, those problems would have been solved. While there is a visible tendency of educators to sink into uncreative routines, and thus to require occasional external prodding, it is very doubtful that low-visibility, part-time politicians provide any such constructive stimulation. If local school boards are not to be permitted to perform their historic function of raising money that is not otherwise available to the public, it would seem the better course to eliminate those bodies altogether.

This observation bears on what seems to many the ultimate solution to all the difficulty, federal funding. Even the federal budget is finite. If some of it is available to provide for more equal educational opportunity, how should it be spent? Reasonable minds may differ about the answer to that question, but few who are attentive to the consequences would urge that the best course is to put the money in the hands of local school districts to spend on tax relief and pay or amenities for teachers. Equalizing the money available to local school politicians may provide a kind of equality for them and for teachers, but it won't do much for the children most in need of better schooling. This has been made very clear by our experience with Title I of the Elementary and Secondary Education Act. Although money distributed under that legislation was earmarked for the educationally disadvantaged, one local district after another diverted those funds to non-compensatory uses. The lesson of that experience is that more federal control, not less, is needed. Generalized revenue-sharing, with less rigorous federal control, is not responsive to the needs of disadvantaged children. Those whose primary commitment is to the social ideal embodied in the Fourteenth Amendment must find any proposal for unrestricted local spending of federal money to be a misdirection of scarce public resources.

The complexity of the local control issue may be illuminated by a note of comparison. Post-revolutionary French governments, strongly motivated by the goals of equality and fraternity, emphasized a national educational policy which obliterated family, community, and local control. French children, from Provence to Brittany, study by the same lesson plan. Partly as a result of this system, as is well known, the French people came not "to care what you do as long as you pronounce it properly." The elimination of French dialects, which were thought to be symbols of class distinction, was a major program of compensatory education which worked. It worked because of tight national control. On the other hand, such systems do have a price, even in equalizing effects. Those families who care the most about schools and learning, whose children have the most to give to their peers, go to private schools if they can. It is perhaps not an unrelated fact that public education in such countries gets little support from the intellectual and economic elite and is endemically underfinanced.

The seventh and final difficulty with the no-wealth principle is that it poses a grave problem of judicial administration. This is very much a legal consideration, although Justice Powell made no reference to the difficulty in his *Rodriguez* opinion, but it was clearly raised by the decree entered in the trial court. That decree created a significant possibility of a kind of constitutional crisis which might have been very costly to resolve.

The court below did allow the Texas legislature an extended period in which to create a new system of school financing which would comply with what the court perceived to be the constitutional requirements of equality. One need not suppose that the Texas legislature would defy the federal court in order to consider the possibility that legislation might not be forthcoming; legislation does require consensus and it is easily imaginable that none would form. In the event that the legislature did not act, the court decreed that the state Board of Education would reallocate the funds derived from local school taxes in a manner that would conform to the constitution. It seems almost probable that if this should occur, local districts would repeal their levies rather than provide funds for use elsewhere. The result would be that the court and the state board would be left to equalize spending with a reduced total outlay for schools. Chaos would be the most probable result. The court and the legislature would have to share responsibility for closing the schools. In order, presumably, to save our schools, we would first destroy them. Such arrogance is more than unseemly. It would be far more harmful to public confidence in all the institutions involved than continued inequality, however viewed.

To be sure, the Supreme Court has assumed similar risks in issuing decrees which called for legislative responses. The reapportionment cases are the best examples. But the alternatives of at-large elections or provisional court-drawn districts were far less harmful as ultimate judicial responses if the legislature should fail to act. Judicialization of the public fisc poses a remediation problem of a different order of magnitude than reapportionment because the courts have no way of generating revenue. Or so it would seem. It would, to say the least, be a new departure in judicial activism for the court to establish and enforce its own revenue measure. Yet that would seem to be the only effective alternative open to the court if it were to opt for the no-wealth principle and yet avoid the risk of a destructive challenge to the legislature such as the one the trial court in Rodriguez had posed.

Some of the practical difficulties which have been identified might have been avoided if the architects of the attack on unequal finance had considered the remediation problem first. One advantage of this approach is that it might have helped them to maintain eye contact with the historic Fourteenth Amendment goals which they sought to serve. Thus, there is one remedy which a court might employ to correct some financial inequities, which would have the apparent effect of increasing the resources available to those most in need of better education. The remedy would be to order the fiscal federation, or the consolidation for fiscal purposes only, of rich and poor districts within a metropolitan area. This remedy could be achieved by court order without direct challenge to the legislature, and with much less disruption of continuing educational programs. Although by no means free of adverse social consequences of the sort identified, the remedy would be more attuned, in its practical results, to the aims and values of the Fourteenth Amendment than fuller implementation of the no-wealth principle in a manner involving all the schools in a state. Unfortunately, the more constructive remedy of metropolitan fiscal federation is so poor a fit with the no-wealth principle that it is unsuited to enforce it.

It would seem to have been a better service, if it were possible, for the architects to design a principle that would have fit that remedy. I have elsewhere tried my hand at that task, without, alas, any apparent success. But there may be reason to hope that the Supreme Court of Michigan will use such a remedy if the Michigan legislature does not respond to its initial proclamations declaring the existing scheme unlawful. Perhaps such a remedy might have commended itself to Justice White if he had prevailed in *Rodriguez.*

I have elsewhere declared the advocates of the no-wealth principle to be quixotic. They did, indeed, mount a myopic attack on a serviceable mill, the local property tax. And there was a significant risk that they would be more harmful than helpful to the ultimate interests they sought to advance. It is my impression that this appraisal is becoming somewhat more widely shared. As it does so, the no-wealth principle seems likely to subside. Practical men, alert to all the social, economic, and political consequences, will join in the Court's appraisal that the cost is too high, if all that we accomplish is an ethical gesture.

For the time being, therefore, the problem of equity in school finance remains a legislative problem. It is well that this is so, I think, because the problem is so complex, so polycentric, that almost any judicial intervention promises to be counter productive. Courts must act on principles; principles are realistic only if they are addressed to simpler problems than those of school finance; only those having no such commitments to clear reason, can accommodate all the conflicting values involved. Legislatures are such organizations. There was something quite awry that a novel, complex, and consequential idea such as district power equalization should be designed for presentation to a court, for no court is suited by composition or process to give it a fair appraisal. The legislative work will be tedious, and at times disheartening, but it will be done.

On the other hand, it should not be assumed that no school finance litigation will succeed. If the plaintiffs can identify themselves as a truly broadly disadvantaged group, and can show that they really are deprived of effective basic educational services, and can limit the focus of their attack in a manner that makes a judicial remedy manageable, they may well prevail. All that the Supreme Court has demonstrated in *Rodriguez* is that it will not challenge forty-nine legislatures to a political variation on the game of chicken, for the purpose of conferring an uncertain benefit, on children who have demonstrated no special need, at the expense of unidentified taxpayers and consumers of other public services. Less demanding plaintiffs may well get a more favorable reaction.

Meanwhile, we should give the champions of the no-wealth principle their due. What could be more becoming to Justice Marshall than to invoke, on behalf of children who are neither black nor poor, the very right which he won so hard as the advocate of those poor, black children in his great victory of thirty years ago? His action and his words bespeak a commitment to principled decision-making which is the blood of the judicial enterprise. And of Professors Coons, Clune, and Sugarman, it must be said that they overran their target because of what may seem to some of us an excessive commitment to an ethical ideal. But it is just such ethical idealism which redeems American law from being a harsh oppressor of the powerless. Over the longer arc of time, the future is with them.

Alternative Fiscal Solutions to Equity Problems in Public School Finance

G. Alan Hickrod

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> "The ultimate wisdom as to these and related problems of education is not likely to be devined for all time even by the scholars who now so earnestly debate the issues."
> —Justice Powell in *San Antonio Independent School District, et al. v. Rodriguez, et al.*

APRES RODRIGUEZ

In the short time that has elapsed since the announcement of the *Rodriguez* decision a heavy gloom has descended upon some members of the school finance reform movement. It seems appropriate therefore to devote some opening remarks toward lightening this pessimistic mood. In the first place the writers of the majority opinion did go out of their way to indicate that they were *not* endorsing the *status quo*. Specifically they said, ". . . certainly innovative new thinking as to public education, its methods and its funding, is necessary to assure both a higher level of quality and a greater uniformity of opportunity. These matters merit the continued attention of the scholars who already have contributed much by their challenges."[1] While the court was thus inviting the academic community to continue the investigation of fiscal systems for education, it was also placing the responsibility for upsetting the *status quo* squarely on the heads of the state legislators: ". . . the ultimate solution must come from the lawmakers and from the democratic pressures of those who elect them."[2] Any state legislator therefore who believes now that the "heat is off" has badly misinterpreted the intent of the court and is indulging in wishful thinking. To the contrary, this particular kitchen is only beginning to get warm.

There are some other points that might be made for the benefit of those reformers who find their enthusiasm at low ebb after *Rodriguez*. There is still hope for reform in the state courts in suits which rely upon specific items in different state constitutions.[3] The outcome of these cases will, it is true, give the school finance world even more the appearance of a "coat of many colors" than it already has. Much will turn on the language of the education articles in each of the state constitutions. It is probable that some of the older constitutions, particularly those modeled after the Northwest Ordinance, will offer more possibilities for litigation than constitutions which have been more recently revised, or in the case of Illinois, completely rewritten. A great deal will also rest on the "strict constructionist" versus "broad constructionist" traditions of each of the state courts. School finance reformers will also now be turning their attention to plans for amending the federal constitution to make it speak more directly to the question of whether education is a "fundamental right." The notion of adding an education article to the federal constitution is not new, but it usually has been torn to pieces on the reefs of the church-state issue before it has had a chance to make even a maiden voyage.

The silver lining in the *Rodriguez* cloud may be that it will afford us a sorely needed breathing spell in this hectic race for school finance reform that has been so obvious in the last eighteen months. No man can say with certainty just how many "alternatives" have been presented to state legislatures since August of 1971 when the Supreme Court of California handed down the *Serrano* decision. By referring to the reporting facilities of organizations like the Education Commission of the States, the Lawyers Committee on Civil Rights Under Law, the National Organization on Legal Problems of Education, the various divisions of the United States Office of Education, and of course the National Educational Finance Project, it is apparent that the number of serious fiscal proposals before state legislatures can now be counted in the hundreds. Even those of us who have been active in this field for some time find it quite difficult to keep posted on all the proposals being put forward by responsible groups and individuals. We do, indeed, need time to step back and observe the forest instead of being lost in the trees. Such is the purpose of this paper, to consider again the ancient problems of equity in school finance and then to analyze briefly the strengths and weaknesses of some alternative solutions that have been proposed for these problems. That we have been working this forest for no less than seven decades is perfectly true. Elwood Cubberly first pointed out the equity problems in school finance at the turn of this century.[4] We would not have the audacity to take up the axe again were it not for the certain knowledge that each new generation reinterprets these old equity concerns in a different perspective as the years progress. Surely none would deny that the recent wave of school finance litigation has added new and interesting dimensions and this fact, we hope, justifies yet another logging expedition.

Before we start felling the trees, however, it might be a good idea to remind ourselves that the solutions that men pose to serious social and economic problems do have a way of backfiring on them. That great legendary figure of the North, Paul Bunyon, learned this the hard way. It seems the forests of the North were plagued by swarms of particularly discomforting mosquitoes. Word reached Bunyon that in Louisiana they had developed a specie of fighting bee that destroyed mosquitoes. Bunyon was delighted to hear this good news and he promptly sent for a sample of the bees. For a while things were fine and the insect civil war proceeded in excellent fashion as the southern bees kept the northern mosquitoes in check. Unfortunately, the bees and the mosquitoes started behaving like people; that is, they got tired of fighting, settled down, and intermarried. To his horror, Bunyon then discovered that the progeny of this miscegenation turned out to have stingers on both ends. It would not be difficult to find state department personnel, or members of state legislatures, who have discovered that imported new ideas in school finance, when grafted without proper inspection on native stock, turn out to have strange and bitter fruit. States who have invited outside experts to investigate their educational fiscal structure would be well advised to inspect their "southern bees" carefully.

ASPECTS OF THE EQUITY PROBLEM

Rodriguez has not changed the economic and fiscal facts, only the legal interpretation of those facts. In this section of the paper we shall endeavor to show that the equity problems persist no matter what the courts have said about them in the past, or are likely to say about them in the future. After all, if we are to believe Mr. Justice Stewart, a method of financing the public schools can be both "chaotic and unjust" and still remain "constitutional." and it might also be recalled that even Justice White, who found for Rodriguez, was constrained in another case to note that ". . . the Constitution does not provide judicial remedies for every social and economic ill."[5]

First, there is the matter of possible inequities among taxpayers. Table one contains some basic data which sets the stage for consideration of this aspect of the equity problem. In this and other illustrations in this paper the author has drawn upon data from Illinois for two reasons. First, he is more familiar with that state than with other states, and secondly, that state has recently completed no less than six volumes of school finance studies that provide a good deal of material for everyone interested in these matters.[6] Parenthetically it might be said that Illinois is also a particularly good place to study the many aspects of the general equity problem. States which are large in size, which have many school districts, and which have extremes of wealth are particularly prone to equity problems and Illinois, unfortunately, fits all three requirements very well.

It will be observed in table one that if two taxpayers of equal individual wealth resided in the Maple Grove Elementary School and the Metropolis City Elementary School the unfortunate taxpayer re-

TABLE 1
BASIC TAXPAYER EQUITY PROBLEM
(ILLINOIS DATA)

District	*1969 Total Educ. Tax Rate (per $100)*	*1970 Oper. Expenditure per pupil*	*1968 Ass. Valuation per pupil*
Maple Grove Elementary	0.41	1,583	387,835
Metro. City Elementary	1.72	628	11,686
Joppa H.S.	0.83	1,901	257,853
Metro. City Elementary	1.74	814	27,769
Chicago Unit	2.53	1,053	23,407
Brookport Unit	2.73	669	3,612

Note: All except Chicago are in Massac County.

siding in Metropolis City will pay a rate over four times as great as the taxpayer residing in Maple Grove and yet that unfortunate taxpayer would receive a bundle of goods and services priced at less than half of those received by his more fortunate neighbor in Maple Grove. Lest it be argued that these differences are really cost differentials and do not reflect quality levels it should be pointed out that these are neighboring districts located in the same county in southern Illinois. A similar situation exists for the fortunate citizen in the Joppa high school district and for his unfortunate neighbor in the Metropolis City high school district. Citizens in Chicago versus Brookport, which are located at opposite ends of the state of Illinois, are not quite so far apart in terms of tax effort, but their similar tax effort produces quite different results. This lack of equity for taxpayers exists in varying degrees in all states of the Union. Even in the state of Hawaii, where full state funding has been the rule, some local amounts of "add-ons" have been allowed in recent years which then reintroduce the equity problems. Although economists are far from being in agreement as to how to evaluate this situation, at least some believe that this state of affairs violates the principle of public finance known as the "equal treatment of economic equals."

Perhaps, however, one is not interested in this "horizontal" taxpayer inequity matter but rather in what is sometimes termed "vertical" equity; that is, the equal treatment of economic *unequals*. If such is the case then the shape of the distribution of expenditures per pupil will likely become the focus of attention. Those who study this facet of the equity complex are usually more concerned with effects upon students than with "fairness" among taxpayers. Figure one shows the distribution of expenditures per pupil in most states outlined with a solid line. The evidence indicates that this is a skewed distribution.[7] Many would argue that the desired distribution is that indicated by the dashed line, that is, a distribution whose variance has been reduced by making the distribution approach the shape of a normal or bell-shaped distribution. This school of thought frequently concentrates upon "leveling up" expenditure levels for the poorer school districts, or, in terms of the diagram, shifting the curve to the right. In some cases this school of thought holds that the expenditure levels of the more affluent districts must be frozen in order to approach this desired "normal" distribution. A closely related school of thought argues that there is some "permissible" variance that society will be willing to tolerate among economic unequals. It is held that perfect equality is not desired, but that the variance should be held within socially "permissible" limits. The works of Arthur Wise contain several references to this notion.[8] In this theoretical formulation equity is to be sought by reducing the variation in expenditures per pupil, in tax rates, and in wealth among school districts. Many among this group would also insist that the real desideratum is to eventually reduce the variance in achievement test scores or in some other measurements of school output. Thus all students would leave the common schools (K-12) on a more equal footing than when they entered those schools, and the race for rewards *after* the common schools would begin on a more equal basis.

The defense of this particular notion of social and educational equity is more political than economic, and is of very ancient derivation. Relying on a stream of thought that is traceable at least to Jefferson, and probably to Aristotle, it is maintained that the body politic is neither safe nor stable if there exists great variations in power, wealth, and knowledge. The defenders of this view of society would seek to establish a broad middle class, well educated citizens, and active participants in the political process. This "golden mean" would then become the major underpinning of a democratic society. Indeed, the notion of "one man, one vote" itself assumes a configuration of society not greatly unlike the one sketched here. Extremes of wealth, knowledge, and power would be allowed, but would be controlled, hence the origin of the normal curve shape. Such an ideology also assumes correlations among the three factors of knowledge, wealth, and power, and that assumption would be challenged now by some educational analysts.[9]

There is a third dimension of equity that has arisen out of recent school finance litigation. This has understandably been expressed in legal and constitutional terms; however, it is not necessary, nor is it even desirable to always address the issue from the point of view of those who wear the coif. We have reference to the notion of "fiscal neutrality." This aspect of equity can also be approached from a socio-political frame of reference, in fact, as the efforts of Aiken and Clune tend to show, a defense on strictly economic grounds may prove difficult.[10] It can be argued that status in an open and democratic society should be achieved by individuals through their own meritorious behavior rather than being ascribed to them by the conditions of their birth. This ascription of opportunity can very well include the wealth of a school district into which a student happens to be born, or into which his parents happen to move. Grubb and Michelson speak of this in terms of ". . . disassociating school resources flowing

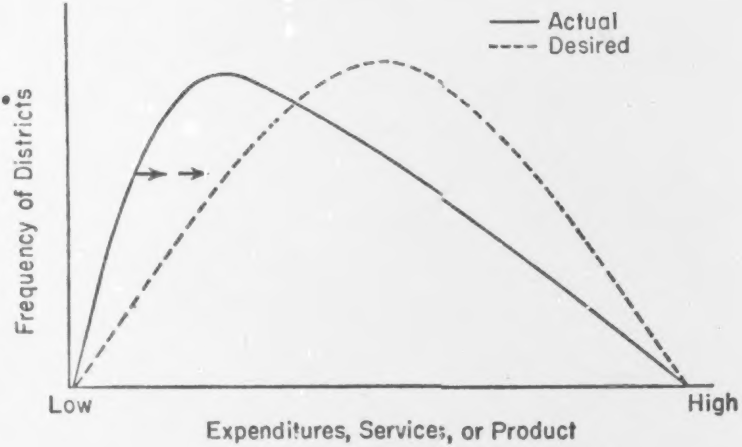

Figure 1
Permissible Variance Model

to children from certain inequities among their parents . . ." and correctly point out that the fiscal neutrality concept views children as ". . . independent of their parents and equal citizens of the state."[11] Much broader philosophical justifications for this support of achieved status over ascribed status can be found in Vilfredo Pareto's concept of a "circulation of elites" or in Arnold Toynbee's similar notion of a "creative minority."[12]

On a more practical plane the goal of fiscal neutrality is simply a state of affairs in which local district wealth will no longer determine the level of goods and services that are provided to students in an area as crucial to their life chances and upward social mobility as is K-12 education. It is also maintained that where local wealth has acted to create unequal ascribed levels of educational services then state governments have a positive duty to redress this situation. In fact, it has even been argued by some that this is the first and foremost duty of state departments of education.[13] All of this may sound to some like quite revolutionary talk, but actually the fiscal neutrality concept is much more conservative than at least some versions of the previously described 'permissible variance" notion. In the first place, as Guthrie and Levin are continually reminding us,[14] if we really are to take the "permissible variance" notion seriously then we must proceed to allocate some multiple of the dollars to the poor districts that we now allocate to the rich districts. To put the matter another way, for all adolescents to start the race for rewards in life on an equal footing at the time they divest themselves of mortarboard and gown following high school graduation requires that the state governments make considerable investments in students from the poorer districts. This is true since there has been such a low level of human capital formation *prior* to formal schooling. Fiscal neutrality would require no such large compensatory investment schedule since it restricts state responsibility to countervailing only local school district wealth. Those who advance fiscal neutrality as a proper state goal are much more likely to talk in terms of school *inputs* rather than in terms of school *outputs*. It can not be denied, however, that a state which moves toward fiscal neutrality may also find itself reducing the variance in expenditures, services, and perhaps even output, but that is not the major purpose of the fiscal apparatus.

Fiscal neutrality is also conservative in another context. To make educational service level decisions independent of local wealth levels is to enhance local control rather than to restrict it. The joint dissent by Justices White, Douglas, and Brennan held that the states, ". . . must fashion a financing scheme which provides a rational basis for maximization of local control, if local control is to remain a goal of the system. . . ."[15] Adoption of fiscal neutrality would provide a setting in which, for the first time, poor school districts would have as much *meaningful* local control as would rich districts. Fiscal neutrality certainly does not prohibit, and may in fact promote, different levels of educational spending due to differences in local school boards and differences in the preferences of local populations for education as opposed to other forms of goods and services. In this light it can

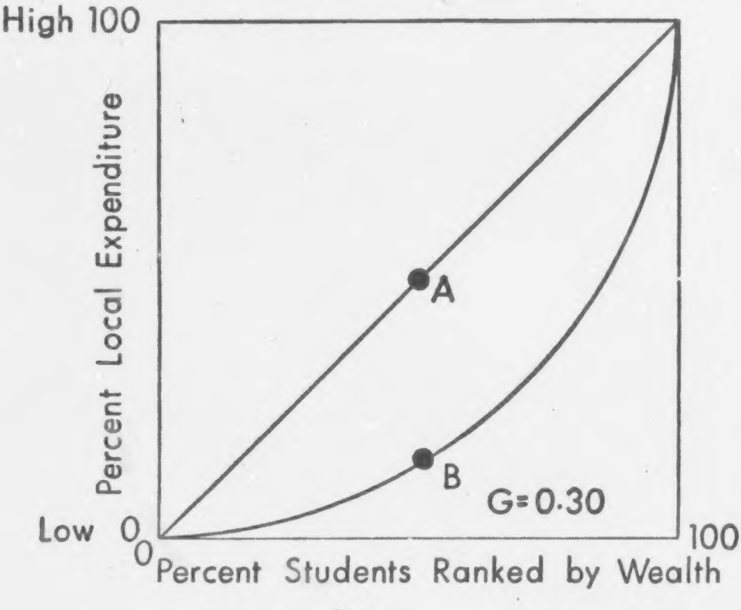

Figure 2
Disequalizing Effects of Local Resources Shown by Lorenz Curve

be argued that the notion of fiscal neutrality enhances local consumer sovereignty rather than restricts it. Indeed, it is exactly this continued variance in expenditures that worries most of the critics of fiscal neutrality. Later in this paper we shall review such criticisms.

If one does accept the notion of fiscal neutrality as a desirable goal of state educational fiscal policy then still further questions remain to be answered. How are we to know when this "neutrality" has been achieved? In prior research conducted by the author and by others it has been held that a statistical tool from the discipline of economics, known variously as the Gini coefficient, Gini index, or index of concentration is an appropriate technique for operationalizing the concept of fiscal neutrality. It appears to have several advantages over the Pearson product moment correlation and other statistical techniques.[16] Figure two shows how this measurement works. The cumulative percentage of students ranked by wealth is compared with the cumulative percentage of expenditures from state and local sources. It is also possible to make this comparison separately for expenditures locally raised, and then for expenditures raised both locally and from state sources. When absolute fiscal neutrality is reached the lowest 10 per cent of the students ranked by wealth will then receive 10 per cent of the expenditures available for education, the lowest 20 per cent will receive 20 per cent, etc., etc. Such a function is then the straight line described in figure two. The conservative nature of the fiscal neutrality concept is now fully revealed since a truly compensatory fiscal model would require that the lowest 10 per cent of the students ranked by wealth should receive *more* than 10 per cent of the total funds available for education. To the extent that any given state's educational allocation system then departs from fiscal neutralitiy a curve will be described which departs from the straight line. This curve, sometimes called a Lorenz curve, will pass through point B rather than point A. In such a case the lowest 10 per cent of the students ranked by wealth will receive less than 10 per cent of the state and local funds available for education, the lowest 20 per cent will receive less than 20 per cent, etc., etc. A numerical value can be assigned to the degree to which the curve departs from the straight line by a number of means. An appendix to this paper prepared by professor Ramesh Chaudhari sets forth one possible calculation procedure. Readers interested in the computer software necessary for such a calculation are urged to correspond with professor Chaudhari.[17] The Gini coefficient can have either positive or negative values depending upon what variables are placed upon the ordinate and the abscissa of the graph. The difference between figure two and figure three illustrates the effect of state aid in moving a state toward a condition of fiscal neutrality.

EQUITY IN LONGITUDINAL PERSPECTIVE

It seems particularly appropriate for state departments to conduct longitudinal investigations of progress toward, or perhaps departure from, some of these equity goals. In order to encourage such studies this portion of the paper will extract some data from such a study in Illinois.[18] In figures four, five, and six the "permissible variance" notion discussed previously has been used. The operational specification of this concept was in terms of the so-called "coefficient of variation," that is, the standard deviation divided by the mean and multiplied by 100. Division by the mean is necessary to partially offset inflationary effects on these measurements. Other statistical techniques could have been used; for example, one might have placed all the variables into their logarithms and then compared the simple variances of these resulting log distributions.

Figures four and five indicate that the relative variance has indeed been dropping in Illinois with regard to expenditures per pupil and with regard to tax rates for educational purposes. If the equity goal is to reduce the variance and therefore make it more "permissible" or "acceptable," then Illinois has moved in that direction. That this movement has not been due to equalization of wealth among school districts can be seen from figure six. While high school districts show a reduction in wealth variance this is not true for unit districts, nor is it true for elementary districts. One should not jump automatically to the conclusion, however, that this reduction in expenditure and tax effort variance has been the result of deliberate state fiscal policy. Some of the reduction might be attributed to selected state fiscal policies such as raising the minimum teacher salaries allowed in Illinois,

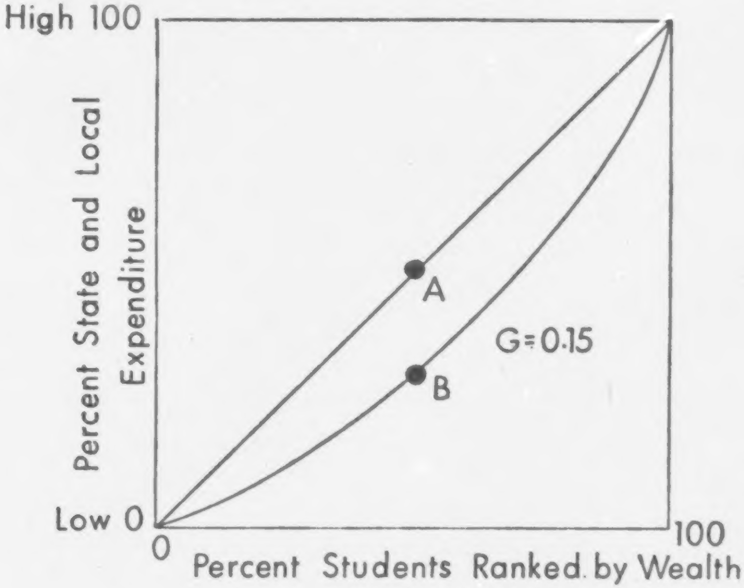

Figure 3
Combined State and Local Resource Effects Shown by Lorenz Curve

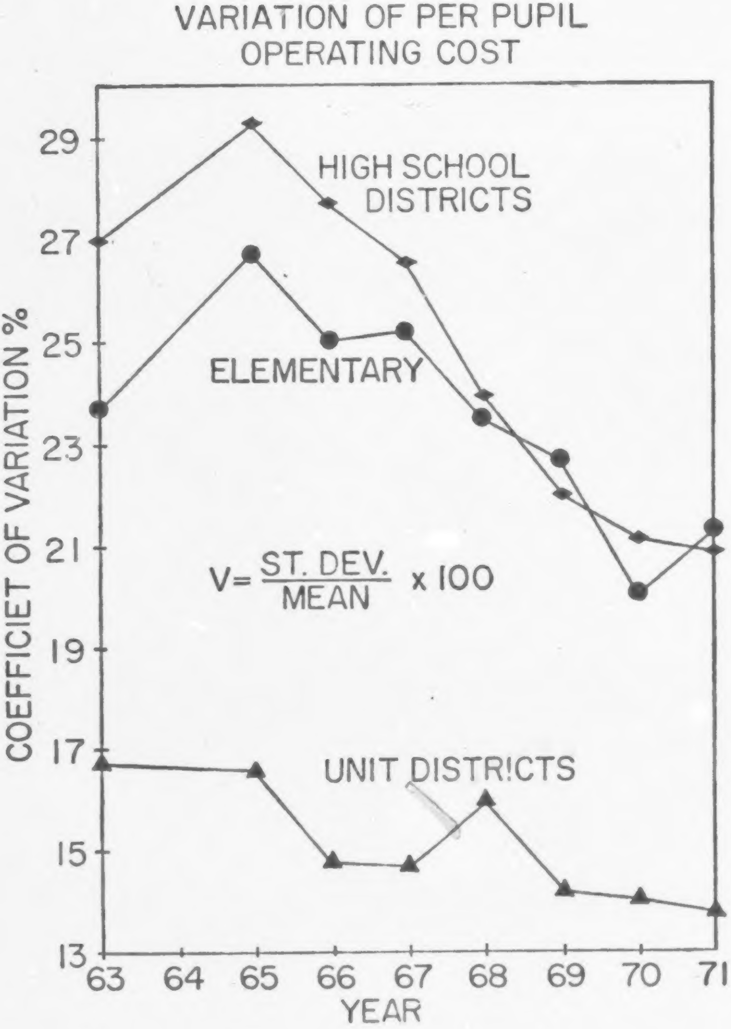

Figure 1

or to the effects of certain aspects of the general aid formula. However, it is much more likely that these reductions in variance among school districts within states are due to broader social and economic forces operating in the society such as the effects of collective bargaining by teachers or the rising expectations of rural areas for better educational

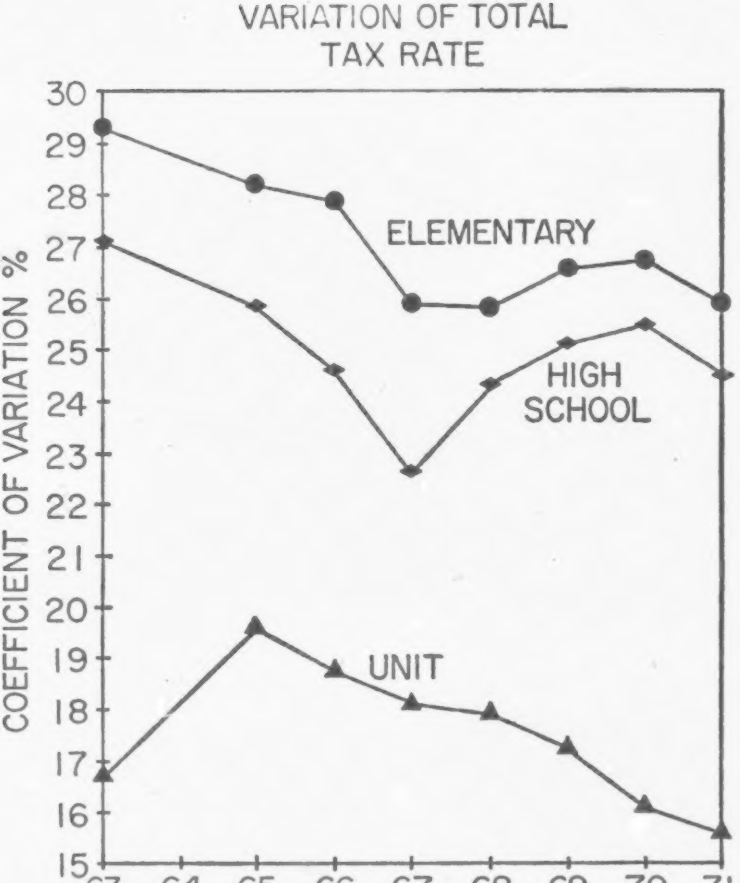

Figure 5

services. Some support for this broader interpretation can be found in table two which reproduces data compiled by Marian Bendixsen for the National Committee for the Support of Public Schools.[19] It will be noted that variation among districts in expenditure per pupil did drop strikingly in the United States from 1940 through 1960 but that the reduction since 1960 has not been so pronounced. The progress of the states on this criterion does vary and may be due in part to various degrees of district consolidation and reorganization that

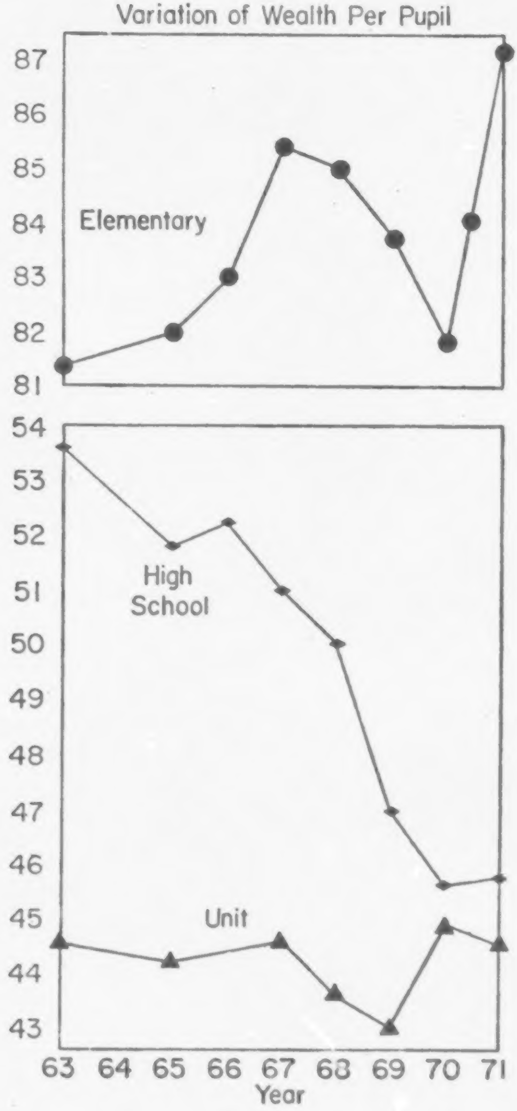
Variation of Wealth Per Pupil
87
86
85
84
83
82
81
Elementary
54
53
52
51
50
49
48
47
46
45
44
43
High School
Unit
63
64
65
66
67
68
69
70
71
Year

Figure 6

have taken place during this period of time. The particular measurement used, i.e., the range between the 98th and 2nd percentiles, taken in the form of a ratio, is unfortunately quite sensitive to a few deviate districts and may therefore not be quite as reliable as the variance. On the other hand such a ratio does not need to be corrected for inflationary effects, which is necessary when the variance is used.

TABLE 2
RATIOS OF EXPENDITURES OF 98TH TO 2ND PERCENTILE
(SELECTIONS FROM BENDIXSEN DATA)

	39-40	*49-50*	*59-60*	*66-67*
United States	15.50	5.53	3.86	3.14
New York	4.03	2.78	1.84	1.98
Illinois	5.30	4.93	2.49	2.46
Michigan	4.77	4.08	3.49	1.88
California	2.86	2.17	1.91	2.27
Colorado	4.38	3.36	1.86	1.75
Nevada	4.36	2.86	1.37	1.14
Utah	1.68	1.33	1.42	1.32
Wyoming	4.97	5.13	1.98	2.08

It might be tempting to some to draw a policy conclusion from this reduction of variance which could be described as "do nothing and let time take care of the inequity problem." There are at least three reasons why that would be unsound. In the first place we don't have enough longitudinal studies to be perfectly sure of this trend. Secondly, in the event that what we are observing is due primarily to school district reorganization and consolidation, then there is good cause to expect this variance to stabilize and reduce not much further. In many states school district reorganization can not proceed much further without encountering problems of morale and motivation inherent in very large school systems. Illinois, one should very quickly hasten to add, is not such a state. There are still over eleven hundred school districts in Illinois and this accounts for much of the equity problems in that state. But there are logical limits on the degree that consolidation can solve inequity problems even in Illinois. Consolidation and reorganization can make the greatest contribution when it is possible to merge richer districts with adjoining poorer districts. Unfortunately we know that in many metropolitan areas the rich districts are found contiguous to one another in geographic clusters and poor districts are likewise grouped geographically together. Very little progress can be made toward greater equity by merging a cluster of small poor districts into one larger poor district.[20] Finally, we are talking of trends here over at least twenty years and probably longer. It is unlikely that the social and political forces desiring more equality of educational opportunity are willing to wait decades for the "automatic" accomplishment of such a goal.

Figures seven, eight, and nine illustrate the application of the Gini coefficient. Illinois, like California and a few other states, is plagued

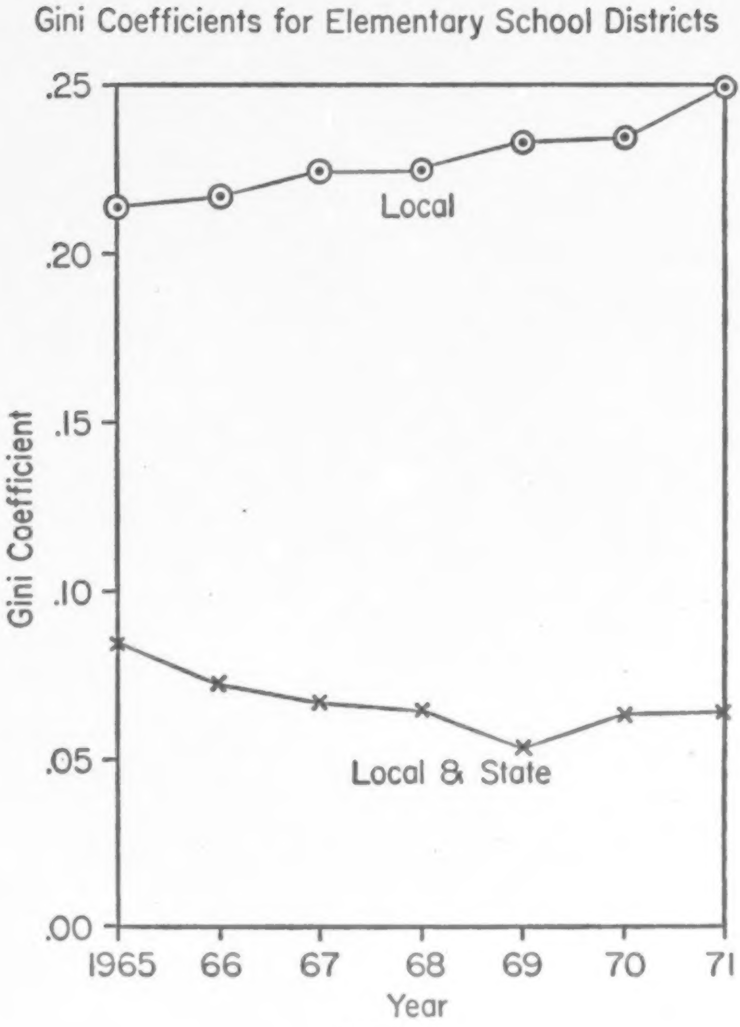
Gini Coefficients for Elementary School Districts
.25
.20
.15
.10
.05
.00
Gini Coefficient
Local
Local & State
1965
66
67
68
69
70
71
Year

Figure 7

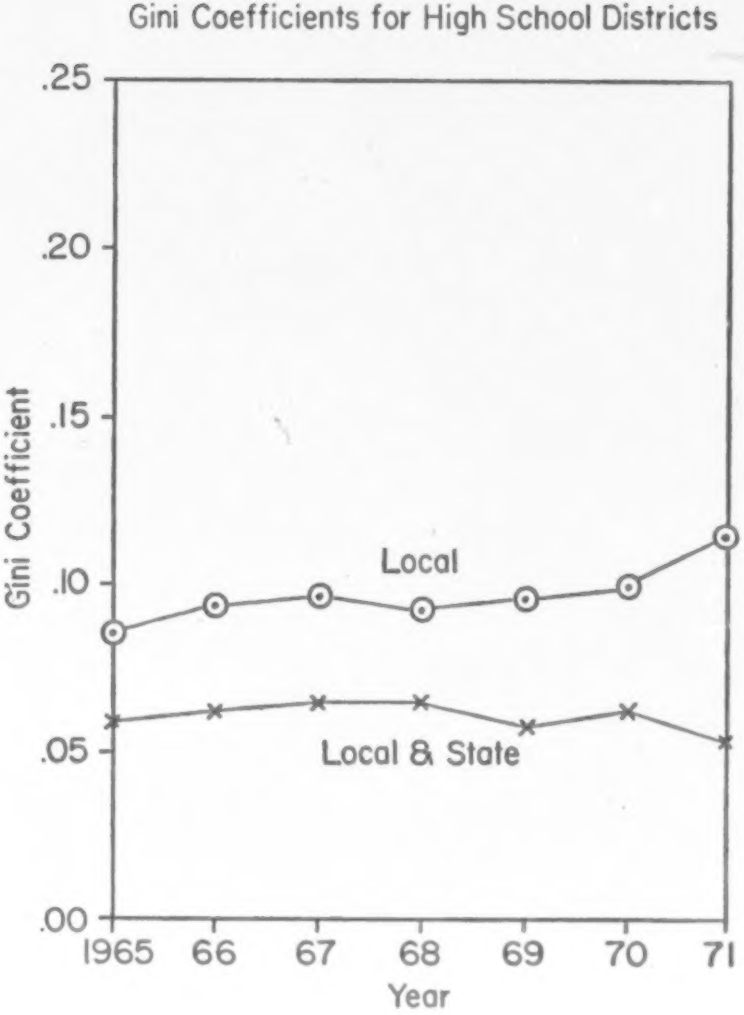
Gini Coefficients for High School Districts
.25
.20
.15
.10
.05
.00
Gini Coefficient
Local
Local & State
1965
66
67
68
69
70
71
Year

Figure 8

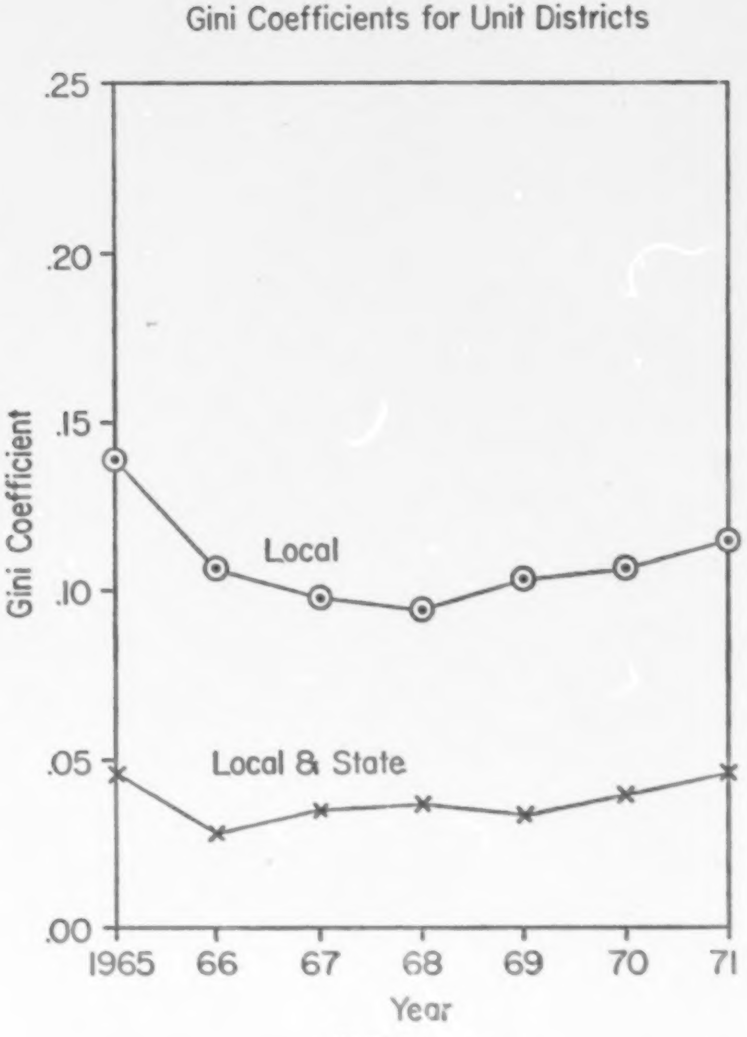
Gini Coefficients for Unit Districts
Gini Coefficient
.25
.20
.15
.10
.05
.00
Local
Local & State
1965
66
67
68
69
70
71
Year

Figure 9

with so-called "dual districts," that is separate elementary and high school districts as well as the normal K-12 jurisdictions. This greatly complicates all fiscal analysis in the state. With regard to these separate elementary and high school districts, it appears that some limited progress has been made toward achieving fiscal neutrality; however, the progress is so slight that one need hardly call attention to it. In the important category of unit districts, e.g., the K-12 jurisdictions, there has been no progress toward achieving fiscal neutrality during the period under analysis, 1965-1971. To put this matter another way, in the unit districts of Illinois, the poorer students were receiving just about the same slice of the pie at the end of the time period that they were at the beginning of the time period studied. A major limitation upon this kind of analysis must be acknowledged, however. "Poor" students are operationally defined in this study in terms of the property valuation per pupil of the district in which they happen to reside. This may well be a weak specification of wealth in spite of the fact that it is the definition currently used in most grant-in-aid formulas throughout the United States. The literature on the disagreement over how to measure the wealth of districts is large and of long standing. We shall look at a new twist on this old problem at the conclusion of this paper. It is certainly possible that different findings might emerge if income were used in the longitudinal studies rather than property valuations per pupil. However, in many states including Illinois, this verges on idle speculation since the possibility of obtaining a time series of district income data is virtually nil.

ALTERNATIVE SOLUTIONS TO THE EQUITY PROBLEMS

Assuming state legislatures and state departments of education are at least mildly interested by the foregoing recital of equity problems, what alternative solutions are available? School finance analysts have shown a proclivity for manipulating the allocation side of the general fiscal equation rather than the revenue side to achieve equity goals. This may well be a mistake since equity goals can also be sought on the revenue side of fiscal matters. However, a tradition that is seventy years old is not easily broken and this paper will also concentrate upon equity solutions that stress allocation procedures. We shall first describe some basic choices that a state must make and then explore the specific problems connected with each of these choices.

Conceptually, one can think of four levels of choice that the state must make in designing its educational fiscal system. The most basic choice consists of whether funds will be raised entirely from the state level, or whether the state will operate a system in which some funds are raised locally, and some funds are raised by the state. History and tradition in the United States have largely made this first choice for us since only one state in the Union, Hawaii, operated with no local funding until 1968, and with only very limited local funding thereafter. There have been students of school finance in the past, and there are certainly those in the present who are not at all happy with this inherited fiscal structure. These scholars believe, and believe very strongly sometimes, that full state funding is the only ultimate solution to our equity problems.[21] If, however, society allows history and tradition to make the choice in favor of partial state funding, or if we deliberately select partial state funding over full state funding, then that very action sets the stage for the next choice that must be made. This second choice is whether we shall have an allocation system based on the notion that one should try to equalize local resources, or whether we should do nothing about unequal local resources.

While most states have chosen to establish an allocation system that does provide state funds inversely to local wealth and thus attempts to compensate for unequal local resources, it should be pointed out that even this basic decision is still open to debate in some circles. If one has very strong fiscal convictions of a conservative nature, it can be argued that selecting a school district in which to reside and in which to raise one's children is essentially an exercise in consumer sovereignty by individual families and that the state has no business interfering in this marketplace transaction.[22] In the terms of this ideology, citizens should vote with their feet, that is, they should move to the district that offers them the bundle of educational goods and services they desire and that they can afford. If they desire more than they can afford, then they should simply work harder to get the resources to spend for this purpose.

However, when one considers the spillover and social benefit effects that K-12 education is presumed to have, and perhaps equally important, when one is confronted with the vast wealth inequalities among school districts in some states, even the most dedicated followers of the doctrine of "the hidden hand" begin to waver. There are also assumptions made in the "pure consumer sovereignty model" about the rights of minors and about the ease of family geographic mobility that many would not accept. It is also obviously quite difficult to square the pure consumer sovereignty model with some of the equity assumptions made in the first part of this paper.

On a more practical level, it might be recalled that there are a few states that do rely primarily upon local resources to support their schools aided only by state flat grants, with no specific equalization provisions. Connecticut is the example usually cited to illustrate this state of affairs. This may be somewhat unfair to that state since Connecticut does provide equalization in a more general sense by providing special purpose grants to districts with concentrations of disadvantaged children.

Once a state has decided that it will operate an allocation system based upon equalization principles it has reached the third level of decision-making. At this point three alternatives are open. The first is to provide for equalization by flat grants, but to increase those flat grants to such a size that the poorer districts are brought to near equality with the wealthier districts entirely from state resources. Obviously such an action increases greatly the amount of state funds required, and such states rapidly approach full state funding even though they may not be so classified by those who devise typology systems for school finance. The state of New Mexico is an example of this kind of arrangement. If one wishes to observe the quite different effects that flat grants can have when used in conjunction with different degrees of local support a comparison of the two states of New Mexico and Connecticut is instructive.

This particular large flat grant option has not proven very popular; however, and most of the states have selected a second option for handling their equity problems. This second option is known variously as the "foundation approach," or the "minimum adequate foundation" or by the name of the men who worked to develop it, e.g., the "Strayer-Haig-Mort" approach. As nearly everyone knows who has ever been subjected to a basic course in school finance, and that includes almost all certified school administrators in the United States, the essentials of this system are that the state sets an expenditure level below which no child's education will be allowed to drop; the local district is then required to also make a minimum local tax effort, and the state then makes up the difference between the foundation level and the amount raised by the minimum required tax effort. More has been written on this particular allocation formula than on any other topic in the whole field of school finance.[23]

Since we do not wish to add here to the already extensive literature on the foundation approach all that we shall do is to point out that local districts need exert very little local incentive to take advantage of the benefits offered by the state under these arrangements. Specifically, all the local districts have to do is to set the required tax rate and spend the required minimum amount for a child's education. This much they must do since many states have penalty provisions for those districts that tax less than the required rate, and spend below the foundation. Strictly within the framework of the equalization formula, however, these foundation systems place very little emphasis upon local decision-making or upon local tax effort. Outside the formula, in the so-called "local leeway" area, there is of course room for the operation of local incentive and local effort, but under the Strayer-Haig-Mort approach that local effort goes unrewarded.

A state may decide, however, that it wishes to reward local effort or to stimulate *local incentive* to spend for public education. It may do this in the name of providing that *"equal expenditures should result from equal effort."* If such is the case a third option will be selected. This third option will be a system which still disburses money inversely to local wealth, but which will also take into consideration the effort the local district is exerting for education. This in turn depends upon the willingness of a local district to allocate a larger part of its scarce resources to education rather than some other public function, or for that matter to reserve those resources for utilization in the private sector. Unfortunately there are some semantic problems at this point since this third option goes by different names in different parts of the country. In various places it has been called percentage equalization, resource equalization, guaranteed tax yield, and guaranteed valuation. The most recent entry into this local incentive category is "district power equalization." There are some differences among these local incentive systems, but to detail all these differences would take us far beyond the scope of this paper.

This brings us to the fourth level of decision-making which is the most technical of the four levels and has proven the most frustrating to legislators, laymen, and even some professional educators. However, if one really wishes to understand the mechanics of educational fund distribution there is nothing for it but to enter the esoteric and frequently abstruse realm of equalization equations. An important decision at this level may be to select a general form for the equalization equation. Table three illustrates the three most common equations presently used in the United States.

In the first formula: F is the foundation level per pupil, P is the pupil count, capital R is the required local tax rate, and V subscript i, the local property valuation per pupil. This equation has been used extensively in many states since the early 1920's in the East and in the 1930's and '40's in the West. The second two equations are illustrative of the local incentive policy option. In the second equation E is an expenditure per pupil figure that is subject to several definitions, often it is the current operating expenditure per pupil in the district, although it can be defined as the expenditure locally raised; V subscript s is the state average valuation per pupil. In the third equation small case r is a local tax rate, again subject to several definitions but usually the tax rate for operating expenses and V subscript g is a property valuation per pupil guaranteed by the state.

Although the "pure form" approach to equalization formulae is a useful typological technique, it does have definite limitations. Each state uses slightly different definitions of the variables and constants, rearranges those parameters within the equations, and then proceeds to add weightings of one sort or another. The result is that there is hardly a state in the Union that does not depart in some important respect from the equations shown in table three. For example, New Jersey, Wisconsin, and in some respects Utah all have allocation systems which are similar in a general way to the bottom equation of table three, labelled here a "guaranteed tax yield" approach. A similar system is under active consideration in Illinois.[24] However, in New Jersey the small case r is not really the actual tax rate in the district,

TABLE 3
MOST COMMONLY USED EQUALIZATION FORMULAE

The Foundation or Strayer-Haig Formula:

$$G = FP - RV$$

The Percentage Equalization Formula:

$$G = EP\,(I - 5\frac{Vi}{Vs})$$

The Guaranteed Tax Yield Formula:

$$G = P\,[r(Vg - Vi)]$$

but rather the local operating expenditures taken as a ratio to the guaranteed valuation figure. It is thus a sort of "computed" tax rate rather than the actual tax rate.

The Utah system is interesting in many respects and educational fiscal analysts in that state are to be congratulated for anticipating many of the developments elsewhere in the United States. Originally the allocation system in Utah had two levels of guaranteed tax yield operating on top of a conventional Strayer-Haig or foundation level formula. Locally these two levels were labeled the "broad leeway program" and the "voted leeway program." The lack of uniformity in school finance terminology is quite apparent here since the term "leeway" in the usage of many educational fiscal analysts refers to the ability of local districts to add monies from their own tax bases *unassisted* by the state over and above the foundation level. In Utah this was not the case since in both the "broad leeway" and the "voted leeway" programs the state government guaranteed a certain yield from each increment of tax effort in excess of the amount mandated for the foundation program. Hence the Utah system could be classified in the guaranteed tax yield category, or more precisely it is a model mixing the top and bottom equations of table three. We shall have more to say of these "mixed models" later in this paper. Recently Utah has folded its "broad leeway" program back into the general Strayer-Haig model and now operates a "two tier" system rather than a "three tier" system. The effect of this is to move Utah away somewhat from the "reward for local effort" principle which so long dominated that allocation system. It appears that this was done in the belief that "reward for local effort" aided the wealthy districts more than was originally thought. The many states which are now contemplating adding incentive provisions to their allocation systems would do well to study the Utah experience carefully.[25]

There are also a good many permutations and combinations of the middle equation of table three. While New York and Pennsylvania have been using the equation in something close to the form shown here, there was one year in which Massachusetts was using a local share parameter set at .65 rather than .50 (as indicated in the table), and Iowa was using .25. In that same year Rhode Island and Vermont operated the equation without a specified local share parameter. For those interested in exploring different equation possibilities there is no better place to start than the compilation made at regular intervals by Thomas L. Johns.[26]

Allocation systems are not always expressed too well by formulae. For example, while it is possible to express the "district power equalization" notion in a single equation[27] it is perhaps more understandable to the average reader if left in the form of the schedules in which it was originally expressed by Coons, Clune, and Sugarman.[28] Table four illustrates such a schedule recommended for Illinois by Raymond Lows.[29] In this system the tax rate the district has selected on the right is matched with an expenditure level guaranteed on the left. The state then makes up the difference when the selected tax rate does not yield the guaranteed expenditure level when that rate is multi-

TABLE 4
PROPOSED SCHEDULE OF BASE TAX RATES
AND EXPENDITURE LEVELS PER WEIGHTED PUPIL

Expenditure Level Per Weighted Pupil	*Base Tax Rate (Per $100 AV)*
$ 1,250.00	$ 2.50
⋮	⋮
$ 1,125.00	$ 2.25
⋮	⋮
$ 1,000.00	$ 2.00
⋮	⋮
$ 875.00	$ 1.75
⋮	⋮
$ 750.00	$ 1.50
⋮	⋮
$ 625.00	$ 1.25
⋮	⋮
$ 520.00	$ 1.08

plied by the local assessed valuation. This particular function is linear —that is, a constant rate of increase in guaranteed expenditures is related to a constant rate of increase in tax rates. Benson and his associates have experimented with functions which are non-linear; specifically they provide greater guarantees at the lower tax rates than at the higher tax rates.[30] These "DPE" systems frequently have provisions whereby the district that raises more than the guaranteed amount is required to contribute the surplus to a pool which is then used for the less fortunate districts. However, the DPE system need not contain such a "Robin Hood" provision, *if* the state is willing to finance the added cost of the formula from other sources. Due to the forceful advocacy of Coons, Clune, and Sugarman and the helpful development by Benson, DPE is probably the most popular experimental form of educational grant-in-aid in the United States. As yet, however, no state has adopted a completely DPE system and as we shall see later there may be good reasons for not depending entirely on the DPE concept.

There are not only differences among states but also among school finance analysts who try to classify and interpret these many allocation systems. For example, Erick Lindman in a recent article treats the second and third equations of table three as the same general form.[31]

We are less inclined to do that since in Illinois we do not find that E and r are closely correlated, and hence the two equations give a different pattern of money distribution. Of course it is perfectly possible for two equations to have similar general theoretical characteristics and yet yield quite different distributions of money due to differences in how certain variables are defined or simply due to the constants selected in the equations. Such may well be the case in this situation.

To the frequently posed inquiry, "how many different kinds of equalization systems are there?", there are two kinds of responses. If one has in mind the kind of major policy decisions we have described here as "choice levels" then there can not be more than three or possibly four. However, at the lowest level of decision-making the number may well be infinite since all manner and kind of pupil weightings can be introduced and the variables and constants rearranged in many different ways. To any given local school district, however, decisions made at the most technical level are nevertheless very important since it may mean millions in state support, especially to the larger districts. The fear that a local district sometimes manifests that it will be "hurt" in a formula change may be well founded in the long run but in the short run "save harmless" clauses in the new legislation usually protect the district for at least a year or two after the adoption of a new formula. There is no denying, however, the powerful motivation that local superintendents have for understanding even the most minor changes in the state allocation system. This partially accounts for the great number of "formula experts" that emerge from the walls each time a major change in the allocation system is considered by any state legislature.

Decision-making at the most technical level can, unfortunately, be quite divisive among educators. Urban districts very quickly learn that all these formulae can be loaded with different kinds of weightings which are, in fact, correlates of the poverty found in central cities, and can hence be of use to them. Rural districts learn to seek out and promote the inclusion of variables that will benefit them. In Illinois there is a continual battle between representatives of unit districts versus those from dual districts. Professors of educational administration may not have helped this situation very much since many of them become much too ego-involved with the formulae they have created, or helped to create. Members of state legislatures can also come in for a share of the blame here since the introduction of successful formula legislation confers a certain amount of status among legislative colleagues. A certain amount of this competition in the allocation formula field is probably useful or at least inevitable. On the other hand when these "formula fights" become too personal and too intense they weaken the chances of meaningful fiscal reform.

COMBINATION SYSTEMS OR MIXED MODELS

Professors of school finance like many of their other colleagues in academia try to make the world understandable by putting reality into little boxes and neatly labelling the boxes. But reality has a persistent way of creeping out of those boxes and becoming all mixed up again. Our modern world of rapid communications greatly facilitates this. Organizations mentioned earlier in this paper, especially the National Educational Finance Project and the Education Commission of the States have greatly facilitated the flow of school finance information between states with the result that relatively "pure" allocation systems are becoming almost as rare as "pure" races among mankind. It is therefore likely that any classification system for allocation formulae can have but limited durability and usefulness.

To illustrate this a number of "combination" systems have been extracted from recent state reports and appear in table five. The first proposal, put forward in New Jersey, would seek a solution to the equity problems by establishing a large flat grant and then operating a percentage equalization system over the top of this flat grant.[32] The second, suggested by Richard Rossmiller, would operate a guaranteed tax yield plan over the top of a similar large flat grant.[33] In Oregon Governor McCall is proposing a combination of a flat grant

TABLE 5
COMBINATION SYSTEMS

I. Flats Plus Equalization:

   A. New Jersey Tax Policy Committee:
      1. Flat Grant set at average expenditure per pupil in state.
      2. Equalization *above* Flat Grant by the percentage equalization formula:

$$G = E\,Pw\,[1 - .5\,\frac{Vi}{Vs}]$$

   B. Richard Rossmiller:
      1. Flat Grant set at $1,000 per pupil
      2. Equalization *above* Flat Grant by Tax Yield formula:

$$G = Pw\,R\,[Vg - Vi]$$

II. Foundation Plus Equalization:

   A. William McLure:

$$G = F\left(\frac{TR}{QR}\right)Pw - TR\,(Vi)$$

where:

F = Foundation Level
Tr = Tax Rate
Qr = Qualifying Rate
Pw = Weighted Pupils
Vi = Property Valuation per pupil

   B. Utah Two Tier System

   C. Power Equalization Schedule Operating *over* present Foundation Formula.

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of $900 with an equalization provision operating to the $1200 level.[34] A number of proposals also operate from a notion that a basic foundation formula can be operated first, and then incentive elements can be built into the system to operate over the top of the existing foundation program. Such is the nature of systems suggested for consideration in Illinois by William McLure[35] and Robert Pyle.[36] The Utah "two tier" system is also of this "combination" nature as has been previously noted. A proposal gaining ground in some circles is the notion of simply grafting a district power equalization schedule on top of the many existing foundation level schemes. Essentially this is the Lows approach since the base of the schedule shown in table four is the actual required tax rate and the required foundation level in the Illinois Strayer-Haig-Mort type formula. Some of this may be simply "faddism" as the popularity of the DPE system continues to sweep across the country. On the other hand there have always been serious students of school finance who have maintained that some local incentive elements should be incorporated into the allocation procedures irrespective of whether it is DPE or some other mechanism for encouraging "reward for local effort." For example, William McLure has maintained this position in Illinois for a number of years.[37]

Recent proposals in Kansas[38] and Florida by Walter Garms and Michael Kirst also illustrate this mixed model approach.[39] In the Kansas case a linear district power equalization schedule is proposed operating from a foundation level of $777 and a qualifying rate of $1.75 per hundred valuation for districts with enrollments in excess of 1,000. For districts with less than 1,000 enrollments the foundation level rises to $1000. The Kansas proposal contains additional aid for small school districts which is bound to be controversial. Proponents will argue that the proposal accurately reflects the needs, particularly the sparsity needs of rural small districts in Kansas, while opponents will maintain that it simply builds in rewards for diseconomies of scale and thus insures inefficient spending in the small school districts.

The Florida proposal is part of a broad and far-reaching plan for improving education in that state which includes recommendations in the personnel, governance and curriculum areas as well as in school finance. What is of interest to this paper is the provision that all the remaining local leeway in Florida be power equalized up to the statewide property tax ceiling or "cap" of 10 mills. Thus there would remain no local leeway *not* equalized by the state. Should this provision be adopted, the basic equalization grant system in Florida would resemble that in Utah. There would remain, however, some important differences between the Florida system and the Utah system, especially with regard to categorical aid for disadvantaged students.

The Florida proposal contains some other interesting features including a sixty-three million dollar cost of living index and a seventy-seven million dollar state compensatory education program. These two special provisions are very important parts of the proposed finance package and they are seen as trade-offs between different kinds of districts. The compensatory education program tends to help the rural districts of Florida, while the cost-of-living adjustment helps the urban districts. It should be noted that power equalizing tax rate differences of 0.70 per hundred valuation to 1.00 per hundred valuation is a very different matter than attempting to do the same for differences as large as 1.35 per hundred valuation to 4.46 per hundred valuation. This latter range was noted in a recent year for a certain size category of unit districts in Illinois.[40] Power equalizing differences this large would require vastly more state funds than were needed in Florida. Noting the mandated seven mills and the state-wide ten-mill limit Garms and Kirst accurately observe: "In effect, local choice is already constrained to very large degree. Because of this Florida already meets the "Serrano" criteria better than most states."[41]

WEALTH, NEEDS, AND CATEGORICAL AIDS

In our exposition of the alternatives for treating equity problems in school finance we have conveniently ignored some very difficult definitional problems and some policy choices not directly concerned with the selection of allocation systems. We shall make brief mention of these here, primarily for the sake of completeness, realizing that none of these items will be given an adequate coverage. First, there is an ancient problem in the school finance literature concerning what constitutes an adequate definition of a "poor" school district. Traditionally this debate was cast up in terms of whether property tax per pupil was an adequate definition of the "fiscal capacity" of a district, or whether additional measures of wealth, particularly different kinds of income measurements, should be included within the definition of "fiscal capacity."[42] With the passage of years the distinction between "needs" and "fiscal capacity" became blurred. It was then argued that income was a good measure of the "human resources" of a school district and that a human resource poor district was a "needy" district regardless of its property valuation status.[43] Garms and his associates have developed some interesting ways of including a "needs" dimension into pupil weightings *if* the basic assumption that socio-economic poor districts are "needy" districts is accepted.[44]

Due largely to the efforts of Betsy Levin and her colleagues and Joel Berke and his colleagues we know much more now about the consequences of introducing an income measurement into grant-in-aid formulae.[45] It came as something of a surprise to some to discover that the introduction of an income measure was of greater use to rural districts than to urban districts. It is also apparent now that the specific type of income measurement introduced has a great deal to do with the resultant pattern of state fund distribution. Per *capita* income will not produce the same distribution as per *pupil* income, and family income produces one distribution while corporate income produces another distribution. Considerable regional shifts in state aid are also likely to occur. In Illinois, Indiana, and Ohio the southern portions of those states would probably profit from the introduction of an income measurement into the grant-in-aid formula as would northern Wisconsin, eastern Kentucky, northern Michigan, etc. Shifts of this magnitude would be bound to produce considerable political conflict.

To return to the "needs" debate the center of that controversy seems to rest on whether educational "needs" should be determined directly, or whether certain socio-economic measurements can be accepted as surrogate or substitute variables to stand for those educational needs. The present weight of professional opinion is probably on the side of trying to measure these educational needs directly. This is due to the influence of extensive studies completed by the National Educational Finance Project concerning cost differentials for different categories of "needy" students, some of the most important of which were conducted by William McLure and Richard Rossmiller.[46] The recommendations of the Fleischmann Commission in New York State relative to including a direct measurement of educational needs in the form of achievement test scores has also strengthened the case of those who would prefer to work directly with educational needs, rather than with some socio-economic substitute for these needs.[47]

But the inclusion of cost differentials in grant-in-aid formulae is, like so many other matters in school finance, still debatable. Critics of this approach argue that the inclusion of these cost differentials in grant-in-aid formulae constitutes a sort of circular reasoning or at best a "self-fulfilling prophecy." Unit cost studies are conducted by the state, and then these same parameters are introduced into the funding formulae. The result is that the costs established at one point in time, and frequently on the basis of a small sample of districts, are "frozen" into the allocation system until such a time as the legislature sees fit to change them. Further, there are some very difficult problems involved in identifying the target populations on which these cost differentials were first established, and to which they are subsequently to be applied. In a sense, giving a cost differential weighting to a particular kind of student establishes a premium or a bounty on that kind of student and the state may suddenly find that it has far more special education students, vocational education students, compensatory students, etc., than it ever thought that it had. Strict scrutiny of classifications to prevent double counting of sudents would also be necessary. There would also seem to be some phychological and sociological problems connected with labelling students in groups for funding purposes. None of this is said to discourage research in the cost differential tradition, but only to emphasize that important problems remain when this approach to "needs" has been taken.

A new twist on the old wealth problem will bring us finally to the consideration of categorical or special purpose aids versus general purpose aids. Recent studies by Churgin *et al.*, Berke *et al.*, and Grubb and Michelson[48] have reopened the question of whether poor students are really to be found in poor school districts, or more specifically, whether income poor students are not also to be found in property valuation wealthy districts. Apparently this was a very important consideration in the majority opinion in *Rodriguez*, the majority of the court accepting the contention that aid to property valuation poor districts might not necessarily aid income poor students. At present this contention seems far from well established empirically. However, we must resist the temptation to establish testable empirical hypotheses on this subject and comment rather on a possible policy implication of this controversy. It may well be that state policy makers will now wish to re-examine the equalization potential of state categoricals for the disadvantaged.

State categoricals in general have usually been found to be disequalizing but the studies usually stress the combined effect of all state categoricals, and do not focus particularly upon categoricals for the disadvantaged.[49] It is noteworthy that California recently wrote into law an eighty-two million dollar state categorical grant for the disadvantaged even though that same legislature has not seen fit to pass either district power equalization or any of the other general purpose educational finance systems that have been presented to them in the last eighteen months.[50] It is also of more than passing interest that major state school finance studies in New York, California, and Florida have all called for the establishment of large state special purpose grants for the disadvantaged.[51] A smaller grant program has been recommended for Illinois.[52]

There are some good arguments for seeking equalization goals through categorical or special purpose grants rather than through the general purpose grant-in-aid formula In the first place if there really is a serious problem of income poor students in property valuation wealthy districts, as some analysts now allege, then the special purpose grant will target money directly to these students. Secondly, the funds in a special purpose grant can be followed more closely and the effectiveness of those investments checked more carefully than when the funds are comingled with the general flow of state aid. Thirdly, the special purpose grant tends to satisfy those legislators who claim that increasing teachers' salaries will simply eat up any increase put into the general purpose formula, and the effects of the additional money for the disadvantaged will be lost in the process. Fourthly, requirements for innovative new expenditure patterns can be placed more easily into special purpose grants and this tends to counter the arguments of those who express doubt at spending more money for "the same old thing" in the public schools. Finally, *if* the definition of "disadvantaged" students is established in terms of students from low income families, it will be found that much of this aid will go to rural areas of the state, as well as into the central city school districts, and this will help greatly in mustering enough votes to pass the measure in the state legislature.

As would be expected there is also a debit side to these state categoricals for the disadvantaged. In the first place they lend themselves to a "band aid" approach to serious problems. There is a constant temptation for the legislature to establish a small and inconsequential program and then proceed to ignore the basic problem for several years thereafter. Special purpose or categorical grants also tend to build state department bureaucracies. Of course the legislature can control this partially by limiting the amount of funds made available to administer the program, but seriously limiting the administrative overhead money will probably cause the programs to be badly supervised. The result will be that the intent of the legislature will then be thwarted. Special purpose or categorical programs also quickly attract their own lobby groups among state legislators and frequently the chief state school officer finds that he has less than the full control over his own shop. The special purpose or categorical programs tend to develop a political power base of their own with consequent problems for coordination and efficiency within state departments of education.

BRIEF EVALUATION OF THE ALTERNATIVES

A thorough evaluation of all these alternatives would require much more time and space than can be given the subject here. Nevertheless, we shall outline at least some of the more important weaknesses of the alternatives described above. Let us start with the full state funding proposal.

If and when full state funding is adopted the effect of the "demonstration phenomena" ends. No longer will it be possible for a superintendent to cry wolf over the fact that the parents of the children in an adjoining district have seen fit to provide better educational services than do the parents in his own district. We professional educators have played this convenient little game of "catch up" for years and it has worked rather well. It must be admitted that there is even a sense in which we don't really want the equity problems discussed previously completely solved. For years we have traded on the guilt of the affluent districts to raise the expenditure levels for the poor. With the onset of full state funding our little game is over, and the entire responsibility for decisions concerning the level of funding for education shifts to the state legislature. Some authorities do believe that the state legislatures will discharge their responsibilities in a creditable fashion.[53] Regrettably there is no way of knowing whether this faith is justified or not. The experience of the Canadian province of New Brunswick is not reassuring, but that particular area has so many economic development problems that it is probably not a fair test of full state funding.[54] Certainly the record of state legislatures in keeping foundation levels current with rising prices is not such as to give one much confidence in their performance should they take over the entire funding decision. A good many legislators are also not overly thrilled about the prospects of state-wide teacher negotiations and the concomitant possibilities of statewide labor disputes that would probably attend full state funding. Nor is it clear that teacher organizations will endorse a proposal to transfer most or all of the negotiations from the local to the state level.

The criticism of full state funding that is offered first is usually that such a fiscal arangement would destroy local control. We are inclined not to stress this point, however. The amount of research available on this matter is quite small and understandably so. A generalization as vague as "local control" is hard to operationally define. Some study has been done on the subject, however, and these efforts do not seem to support the contention that local control must necessarily suffer as the percentage of funds provided by state governments increases. We are inclined to believe that much would depend upon just how the funds were delivered to local school districts under full state funding. If funds were delivered to local districts in large unrestricted block grants then a considerable amount of local control might remain. However, it is far from certain that state legislatures would be willing to pass such unrestricted grants. In any event, it should be remembered that school finance is very much a part of "political economy" and that myths are frequently just as important in this area as reality. If enough legislators believe that full state funding will destroy local control then the necessary legislation simply will not pass.

If full state funding is rejected, for whatever reasons, then we shall continue to struggle with problems of partial state support. The major question will then become just how much is "partial"? Or to put this another way, just how much funding will flow through the equalization systems, assuming further that at least most of the states will continue to operate equalization grant-in-aid systems. *This is a very crucial question.* It is far more important than some of the more technical questions concerning the exact form and detailed nature of the distribution formulae. Even a formula with relatively weak equalization effects will nevertheless equalize matters greatly between the poorer and the richer districts if enough money flows through it. A number of analysts now agree that the percentage of total funds provided by the state government is more important than the shape or form of the equalization formula.[55] This is closely related to the matter of local leeway. Equity can be also accomplished by limiting the local leeway; limiting, that is, the power of the more affluent districts to use the resources available to them. Those interested in equity goals might be well advised to concentrate upon these two related matters, *increasing state aid and limiting local leeway,* rather than becoming caught up in bloody and fratricidal wars over equalization formulae.

In spite of this important consideration we will continue to make decisions over formulae and therefore treatments of the strengths and weaknesses of specific formula types will likely remain an important part of the literature. Sensing correctly the rising interest in various kinds of incentive grant systems, including district power equalization, a number of school finance analysts, e.g., Jordan, Alexander, Benson, and Guthrie, have started pointing out the limitations of those approaches.[56] In the first place these systems might result in increased social stratification and geographic segregation of social classes as the different social strata each sought the tax rate they preferred. Should such a phenomenon occur this would run directly counter to the goal of increasing upward social mobility. Secondly, local decision-makers may not decide to meet the needs of their districts, even if these needs clearly exist. As Jordan and Alexander point out, this could easily happen in the South where many segregated white private academies have drained off children of the decision-makers from the public schools. It takes no great stretch of the imagination to also see this happening in rural areas of the midwest where far too many "company store" type school boards are primarily concerned with keeping tax rates down rather than with providing adequate levels of schooling. Third, urban districts might have a particularly difficult time under the guaranteed tax yield notion since problems of municipal overburden, that is, the competing costs of other public services act to keep educational tax rates down. Fourth, formulae of a guaranteed tax yield nature might also stimulate local property taxation and this would be running directly counter to a strong trend toward local property tax relief. Fifth, there is a special problem of low income households located in the property affluent school districts. This has particularly concerned Benson and his associates. Under DPE, guaranteed tax yield, or some other local incentive system, the more affluent districts might decide to increase their tax effort in order to obtain more state funds. The low income family living in the shadow of a factory or commercial complex would then find its residential property tax increased greatly. More likely, the low income family, realizing this would occur, would simply not vote for the increased levy and hence the students living in these districts would not be able to take advantage of the local incentive system. To correct this situation Benson and his associates have strongly suggested that a so-called "circuit breaker" be adopted wherever DPE is seriously considered. The "circuit breaker" is a tax credit given to householders where the property tax exceeds a certain percentage of the family income.[57] Unfortunately, tax credits as broad as this can cost the state a good deal of revenue. Sixth, students of general local public finance have never been especially pleased with these educational "incentive" grants since they see these grants encouraging local governments to spend funds on education that might well go into other needed public services were it not for the state reward for effort with regard to education. Finally, local incentive systems, perhaps especially percentage equalization, could have the effect of keeping small inefficient school districts in business, since the higher costs or higher tax rates in these small inefficient districts would be rewarded by the state.

If there are objections to full state funding and there are also objections to local incentive systems, are we then to return to the foundation program as the most defensible program for school finance? A good many students of school finance would find that unpleasant as well. A remark made by Henry Levin in a slightly different context probably adequately describes the standing of foundation systems among many current students of school finance: ". . . such subsistence programs represent insurance against civil disruption much more than serious attempts at equalizing opportunities."[58] But traditional Strayer-Haig-Mort approaches can be made to speak to the equity problems if the foundation level is raised high enough and if the local leeway portion beyond the foundation level is sufficiently curtailed. An interesting use of a "computational rate" rather than an actual qualifying rate has been suggested for Illinois by A. James Heins.[59] This would have the effect of directing much of the state money into poorer districts *without* raising local property taxes. Some of the difficulties of adjusting both the foundation level and the qualifying rate simultaneously are avoided by the Heins procedure. Change is so highly valued, however, in the field of education that the more likely "wave of the future" will be some type of "combination system" or "mixed model" discussed earlier in this paper.

It should be obvious to the reader by now that the "experts" are not going to agree on the "best" way to finance the public schools. This was made painfully clear in a recent school finance study in Illinois in which the study group split three ways in its "final" report. One group advocated full state funding, a second advocated incentive systems, and a third advocated modifications of the foundation systems.[60] In such situations it is understandable that legislators, governors, chief state school officers, and other decision makers might wish to turn directly to the people for advice on how the electorate wishes to finance their schools. This apparently is to be the case in Oregon. Before this paper is printed and distributed a referendum will have taken place in that state concerning how schools are to be financed. In Illinois a similar bill calling for a referendum has been introduced into the legislature but its fate is uncertain as of this writing.[61] *If* these referenda are limited to what we have termed here "major choice levels" then they may well provide some guidance where the experts can not. However, it would be a serious mistake to try to cast these referenda in terms of the more technical levels of decision-making described in this paper. The result would only be a confused and frustrated public.

REVENUE AND TAX RELIEF CONSIDERATIONS

Although this paper has been concerned with problems of measuring and defining equity problems, and with exploring suggestions for overcoming these problems on the allocation side, we wish to close by making some comments on the revenue side of the fiscal equation. Occasionally, allocation formulae will be developed with a thought toward giving some tax relief, although this is not too common. An example of this sort of thing can be found in a recent proposal for Illinois by Ben Hubbard.[62] Basically this proposal is a local incentive system in the form of a guaranteed tax yield. However, it has been modified so that it also provides for local property tax rollbacks to a specified tax ceiling. The general property tax freeze proposals that have been put forward in some states simply lock in the existing inequities and are therefore of little use in solving the problems we have outlined in this paper. Local property tax ceilings or "caps," on the other hand, do have a beneficial effect on the equity problems since they limit the power of affluent districts to use their resources and hence move further away from the poorer districts. The difficulty here is that the poorer districts approach these "caps" or ceilings much more rapidly than the more affluent districts. The marginal increment limitations found in many western states, that is, legislation that prevents local property taxes from increasing over a stated percentage in any given year, may also hobble the more affluent districts slightly and hence be of some limited utility in solving the equity problems. In a very global sense, the tax ceilings, freezes, marginal increment laws, etc., do contribute to the long run solution of the equity problem since they discourage local contributions and encourage state contributions. These tax restriction mechanisms are traditionally unpopular, of course, with many professional educators.

Politicians who promise to provide general tax relief, and, at the same time, promise to equalize educational opportunities are either financial wizards, or they are being somewhat less than honest with the electorate. The only way this could occur would be to level down expenditures rather than level up expenditures, and such a system is usually considered a political impossibility. It is true that it is not only possible, but probably necessary, to provide relief from local property taxes at the same time that one provides greater educational opportunity. After all, the equity problem arises in the first instance from inequalities in these local tax resources. But this is a far, far cry from providing general tax relief. The solutions we have discussed in this paper will all require more state funds from some source. Our estimates for Illinois indicate that the revenue requirements for substantial equalization in that state run almost a full billion in new dollars, although this could be spread out over four or five years.

These hard-to-come-by new state funds could be derived from a state-wide property tax, or perhaps from a state-wide tax only on business and commercial valuations, the so-called, "split-roll" proposals. However, there are sufficiently difficult political and economic problems connected with the reimposition of state property taxes that the short run solution is much more likely to be increases in both state income and state sales taxes. The point to be stressed is that solving the problem of equalizing educational opportunity is just like trying to solve most other social problems; more taxes are almost always required. This was the reason we spent so much time discussing the basic nature of the equity problems. Now that some of the judicial clout has been removed from the scene, elected officials will have to be presented with compelling argumentation and evidence before we can expect them to pursue the always unpopular and often politically dangerous path of increasing taxes. Recent events in Illinois have not made us particularly optimistic about the ability of educators to do this. Of course, it is perfectly possible that these equity problems do not trouble the average voter and taxpayer very much and, in that event, we may very well still be writing about these problems seven decades from today.

FOOTNOTES

1. Majority Opinion, *San Antonio Independent School District et al. v. Rodriguez et al.*, March, 1973, p. 54.

2. *Ibid.*

3. See for example, *William G. Milliken et al. v. Allison Green et al.*, Supreme Court, State of Michigan, June, 1972; also *Kenneth and Ernestine Robinson et al. v. William T. Cahill*, Supreme Court, New Jersey, Sept., 1972.

4. Cubberly, Elwood P., *School Funds and Their Apportionment*, 1905, Teachers College Press, New York.

5. Majority Opinion, *Rodriguez*, p. 28, also Concurring Opinion of Justice Stewart, p. 1.

6. The following volumes are available from Robert Clark, Department of State Relations, Office of the Superintendent of Public Instruction, 302 State Office Bldg., Springfield, Illinois, 62706: *Volumes One, Two and Three, Occasional Papers of the Superintendent's Advisory Committee on School Finance* and *Final Report of the Superintendent's Advisory Committee on School Finance*, April, 1973; available from the Bureau of the Budget, Executive Office of the Governor, are these monographs: *A New Design: Financing for Effective Education in Illinois*, Finance Task Force, Governor's Commission on the Schools, December, 1972 and *Survey and Recommendations of the School Business Management Task Force*, November, 1972.

7. James, H. Thomas, Thomas, J. Alan, and Dyck, Harold J., *School Revenue Systems in Five States*, 1961, Stanford University School of Education; James, H. Thomas *et al.*, *Wealth, Expenditure, and Decision-Making for Education*, 1963, Stanford University School of Education; Harrison, F. W. and McLoone, E. P., *Profiles in School Support*, U.S. Office of Education, 1965, Washington, D.C.; Burkhead, J., "Uniformity in Governmental Expenditures and Resources in a Metropolitan Area," *National Tax Journal*, Dec., 1961.

8. Wise, Arthur E., *Rich Schools, Poor Schools*, 1968, University of Chicago Press, also "The Constitution and Equal Educational Opportunity," in Daly, C. U. (ed.), *The Quality of Inequality: Urban and Suburban Public Schools*, 1968, University of Chicago Press.

9. We have reference of course to Jencks, Christopher, *Inequality*, 1972, Basic Books; a "selected" reading list on this issue would doubtless include *How Effective is Schooling?*, Rand Corporation, 1962, and *Do Teachers Make a Difference*, 1970, U.S. Office of Education. The Jencks position has been thoroughly discussed in a number of book reviews and comments the most complete of which is probably *Perspectives on Inequality*, a special section of the February, 1973 issue of the *Harvard Educational Review*.

10. Aiken, John S. and Clune, William H., III, "Economic and Legal Justifications of Fiscal Neutrality," *Education and Urban Society*, February, 1973.

11. Grubb, W. Norton and Michelson, Stephan, "Public School Finance in a Post-Serrano World," Center for Educational Policy Research, Harvard Graduate School of Education, Cambridge, Massachusetts, 02138.

12. Pareto, Vilfredo, *The Mind and Society;* Toynbee, Arnold, *Study of History*.

13. Hickrod, G. Alan and Hubbard, Ben C., "Social Stratification, Educational Opportunity, and the Role of State Departments of Education," *Educational Administration Quarterly*, Winter, 1968.

14. Guthrie, J. W., Kleindorfer, G. R., Levin, H. M., and Stout, R. T., *Schools and Inequality*, 1971, Massachusetts Institute of Technology Press; Levin, Henry M., "Equal Educational Opportunity and the Distribution of Educational Expenditures," *Education and Urban Society*, February, 1973.

15. Joint Dissent, Justices White, Douglas, and Brennan, *Rodriguez*, pp. 6-7.

16. Hickrod, G. Alan and Chaudhari, Ramesh, "A Longitudinal Study of Fiscal Equalization in Illinois," paper presented to the 1973 Annual Meeting of the American Educational Research Association. See also Hickrod, G. A., Chaudhari, R. and Tcheng, Tse-Hao, "Definition, Measurement, and Application of the Concept of Equalization in School Finance," *Superintendent's Advisory Committee on School Finance, Occasional Papers, Volume One*, 1972, Office of Superintendent of Public Instruction, Springfield, Illinois (available also as document ED 060 544 in the ERIC system). For additional illustrations of the use of the Gini Coefficient in school finance research see Harrison and McLoone, *op. cit.;* Barkin, D., *The Equalizing Impact of State Aid to Education*, 1967, Washington University Institute for Urban and Regional Studies, St. Louis; Wilensky, G. R., *State Aid and Educational Opportunity*, 1970, Sage Publications, Beverly Hills, Calif.; Michelson, Stephan, "The Political Economy of Public School Finance," in Carnoy, M., *Schooling in a Corporate Society*, 1972, McKay; Grubb, W. Norton and Michelson, Stephan, "States and Schools," manuscript, 1973, Harvard Center for Educational Policy Research, Cambridge, Massachusetts.

17. Professor Ramesh Chaudhari, Computer Services Division, Illinois State University, Normal, Illinois, 61761.

18. Hickrod and Chaudhari, *op. cit.*

19. Bendixsen, Marian F., *In Search of Equality: School Finance Revisited*, 1972, National Committee for the Support of the Public Schools, 1424 Sixteenth St., N.W., Washington, D.C.

20. Hickrod, G. Alan and Sabulao, Cesar M., *Increasing Social and Economic Inequalities Among Suburban Schools*, n.d., Interstate Printers and Publishers, Inc., Danville, Illinois, 61832.

21. See for example, chapter five, *Final Report of the Superintendent's Advisory Committee on School Finance*, 1973, Office of the Superintendent of Public Instruction, Springfield, Illinois. This chapter was contributed by Arthur E. Wise and J. Alan Thomas. See also Rossmiller, Richard A., "Full State Funding: An Analysis and Critique," in Alexander, Kern and Jordan, Forbis, *Constitutional Reform of School Finance*, 1972, National Educational Finance Project, Gainesville, Florida; also Benson, Charles S., "State Assumption of Educational Costs," a paper presented at the Sixty-Fourth Annual Conference on Taxation, National Tax Association, September, 1971.

22. Tiebout, Charles H., "A Pure Theory of Local Expenditures," *Journal of Political Economy*, Oct., 1956.

23. For an excellent historical treatment see Johns, Roe L., "The Development of State Support for the Public Schools," in *Status and Impact of Educational Finance Programs*, 1971, National Educational Finance Project, Gainesville, Florida; for a more detailed analysis see chapters nine and ten of *Alternative Programs for Financing Education*, 1971, National Educational Finance Project; both of these sources contrast the foundation or Strayer-Haig grant with other types of grants. For shorter treatments of the "comparative formula" type see Benson, Charles S., "State Aid Patterns," in Burkhead, J. (ed.), *Public School Finance: Economics and Politics*, Syracuse University Press, 1964; also Cornell, Francis G., "Forms of the Equalization Model for State Aid Apportionment," *Journal of Educational Research*, June, 1965.

24. Hubbard, Ben C. and Hickrod, G. Alan, "Equalizing Educational Opportunity by Means of a Resource Equalizer or Guaranteed Valuation Grant-in-Aid," in *Volume Two, Occasional Papers of the Superintendent's Advisory Committee on School Finance*, 1972, Office of the Superintendent of Public Instruction, Springfield, Illinois.

25. Hansen, Kenneth H., "Utah's School Finance Program," a paper presented to the Regional Interstate Planning Project, Department of Education, State of Colorado, Conference on School Finance, Las Vegas, Nevada, March, 1973.

26. Johns, Thomas L., *Public School Finance Programs, 1971-72*, United States Office of Education, DHEW Publication No. (OE) 73-00001.

27. Grubb and Michelson, *op. cit.*

28. Coons, John E., Clune, William H., and Sugarman, Stephen D., *Private Wealth and Public Education*, 1970, Harvard University Press.

29. Lows, Raymond L., "District Power Equalization: An Initial Effort to Simulate Application to Illinois Public Schools" in *Volume Three, Occasional Papers of the Superintendent's Advisory Committee on School Finance*, Office of the Superintendent of Public Instruction, Springfield, Illinois; see also *Final Report of the Superintendent's Advisory Committee on School Finance*.

30. Benson, Charles S., Guthrie, James W., *et al.*, *Final Report to the Senate Select Committee on School District Finance*, 1972, Senate of the State of California, Sacramento; see also Benson, Charles C., "Developing a Workable Response in Education Finance to Serrano v. Priest," *Education and Urban Society*, February, 1973.

31. Lindman, Erick L., "Full State Funding: Requirements and Options, II. The Serrano Problem," in Hansen, Kenneth H., *The Governance of State Education Systems: Pressures, Problems, Options*, 1972, Institute for Chief State School Officers, U.S. Office of Education.

32. State Tax Policy Committee Recommendations Summarized," New Jersey Manufacturers Association, Feb. 1972, Trenton, New Jersey.

33. Rossmiller, Richard A., "Full State Funding of Education," in *Six Crucial Issues in Education*, 1972, National Association of State Boards of Education, Denver, Colorado.

34. *Legislative Bulletin*, Oregon Education Association, March 23, 1973.

35. McLure, William P., Chapter Four: "Equal Expenditure for Equal Effort,"

Final Report of the Superintendent's Advisory Committee on School Finance, 1973, Office of the Superintendent of Public Instruction, Springfield, Illinois.

36. Pyle, Robert, pp. 55-57, *Final Report of the Superintendent's Advisory Committee on School Finance, supra.*

37. McLure, William P., *Education for the Future of Illinois*, 1966, Office of the Superintendent of Public Instruction, Springfield, Illinois.

38. Senate Bill No. 92 as Amended by the House Committee, Session of 1973, State of Kansas.

39. Garms, Walter I. and Kirst, Michael W., *Improving Education in Florida: Report of the Governor's Citizens Committee on Education*, March, 1973, Tallahassee, Florida.

40. Pyle, Robert E. and Bradshaw, Fred, *A Study of Illinois School District Effort and Ability Factors*, 1972, Office of the Superintendent of Public Instruction, Springfield, Illinois.

41. Garms, Walter T. and Kirst, Michael W., *ibid.*, p. 85.

42. Burke, Arvid J., "Local Fiscal Ability," *Joint Legislative Committee on School Finance: Final Report*, 1963, Albany, New York.

43. Hickrod and Sabulao, *op. cit.*

44. Garms, W. I. and Smith, M. C., *Development of a Measure of Educational Need and its Use in a State Support Formula*, 1969, New York State Educational Conference Board.

45. Levin, Betsy, Muller, Thomas, Scanlon, William J., and Cohen, Michael, *Public School Finance: Present Disparities and Fiscal Alternatives*, 1972, The Urban Institute, Washington, D.C.; Berke, Joel S., Campbell, Alan K. and Goettel, Robert J., *Financing Equal Educational Opportunity*, 1972, McCutchan Publishing Company, Berkeley, California.

46. McLure, William P. and Pense, Audra May, *Early Childhood and Basic Elementary and Secondary Education*, National Educational Finance Project, Special Study No. 1, Bureau of Educational Research, University of Illinois, Urbana, Illinois.

47. Benson, Charles S., Guthrie, James W., and Others, *Report of the New York State Commission on the Quality, Cost, and Financing of Elementary and Secondary Education*, January, 1972, New York, N.Y.

48. Burke, J., Carnevale, Morgan and White, "The Texas School Finance Case: A Wrong in Search of a Remedy," *Journal of Law and Education*, vol. I, 1972; Churgin, Ehrenburg, and Grossi, "A Statistical Analysis of the School Finance Decisions: On Winning Battles and Losing Wars," *The Yale Law Journal*, 1972; W. Norton Grubb and Stephan Michelson, *op. cit.*

49. Briley, William P., "Variation Between School District Revenue and Financial Ability," in *Status and Impact of Educational Finance Programs*, 1971, National Educational Finance Project, Gainesville, Florida.

50. Chapter 6.10, "Educationally Disadvantaged Youth Program," *Education Code of the State of California.*

51. Benson and Guthrie, *Report of the New York State Commission, etc.;* also *Final Report to Senate Select Committee, supra;* Garms and Kirst, *supra.*

52. "Financing the Education of the Disadvantaged" in *A New Design: Financing of Effective Education in Illinois*, Bureau of the Budget, Executive Office of the Governor, Springfield, Illinois.

53. Benson, Charles S., "State Assumption of Educational Costs," *supra.*

54. *Who Should Pay for Public Schools?*, Advisory Commission on Intergovernmental Relations, Washington, D.C.

55. For supporting evidence see Briley, William P., "Variation Between School District Revenue and Financial Ability" in *Status and Impact of Educational Finance Programs*, National Educational Finance Project, 1971; see also Grubb, W. Norton and Michelson, Stephan, *States and Schools*, 1972, Center for Educational Policy Research, Harvard Graduate School of Education; for conflicting evidence see James, H. Thomas, Thomas, J. Alan, and Dyck, Harold J., *Wealth, Expenditure, and Decision-Making for Education*, 1963, Stanford University School of Education.

56. Jordan, K. Forbis and Alexander, Kern, "Constitutional Methods of Financing Public Schools," in *Constitutional Reform of School Finance*, 1972, National Educational Finance Project; see also Benson, Charles S., "Developing a Workable Response in Education Finance to Serrano v. Priest," and Guthrie, James W., "Edu

cational Implications of Serrano," in *Education and Urban Society*, Feb., 1973.

57. Benson, Charles S. and Guthrie, James W., *Final Report to the Senate Select Committee, etc., supra.*

58. Levin, Henry M., "Equal Educational Opportunity and the Distribution of Educational Expenditures," *Education and Urban Society*, Feb., 1973, p. 159.

59. See Chapter Two, *Final Report of the Superintendent's Advisory Committee on School Finance*, Office of the Superintendent of Public Instruction, Springfield, Illinois.

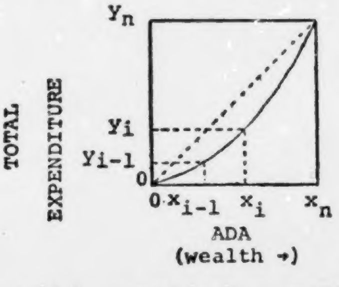
60. *Final Report of the Superintendent's Advisory Committee, supra.*

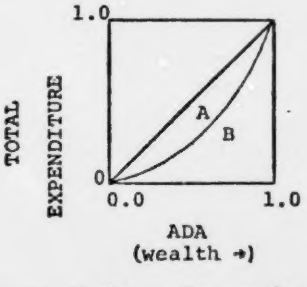
61. House Bill 909, 78th General Assembly, State of Illinois.

62. Hubbard, Ben C. and Hickrod, G. Alan, "Equalizing Educational Opportunity by Means of a Resource Equalizer or Guaranteed Valuation Grant-in-Aid," in *Volume Two, Occasional Papers of the Superintendent's Advisory Committee on School Finance*, Springfield, Illinois.

APPENDIX A
COMPUTATION OF GINI COEFFICIENT

For measuring equalization, the districts are sorted in ascending order of wealth which is defined as assessed valuation per pupil in Average Daily Attendance. The cumulative proportions of total operating expenditures accounted for by these districts are represented by the vertical axis. The curve thus plotted would be a straight line at 45° to both axes if the total operating expenditures were equal in all districts—poor as well as wealthy. However, a sagging curve represents lesser expenditures in poor districts and suggests some inequity. The measure of this inequity as defined by gini coefficient G is given by the formula:





$$G = \frac{\text{Area A}}{\text{Area (A + B)}}$$

or after further simplification

$$G = \frac{0{\cdot}5 - \text{Area B}}{0{\cdot}5}$$

$$= 1 - 2 \text{ Area B}$$

Area B is the area under the curve and if n is the number of districts, and

x_i = cumulative proportion of ADA for the ith district
y_i = cumultive proportion of S for the ith district

Then Area B = $$\sum_{i=1}^{n} \frac{(x_i - x_{i-1})\ (y_{i-1} + y_i)}{2}$$

or 2 Area B = $$\sum_{i=1}^{n} (x_i y_{i-1} - x_{i-1} y_{i-1} + x_i y_i - x_{i-1} y_i)$$

$$= (x_1 y_0 - x_0 y_0 + x_1 y_1 - x_0 y_1$$

$$+ x_2 y_1 - x_1 y_1 + x_2 y_2 - x_1 y_2$$

$$+ x_n y_{n-1} - x_{n-1} y_{n-1} + x_n y_n - x_{n-1} y_n)$$

$$= (x_2 y_1 - x_1 y_2) + (x_3 y_2 - x_2 y_3) + \ldots$$

$$+ (x_n y_{n-1} - x_{n-1} y_n) + x_n y_n$$

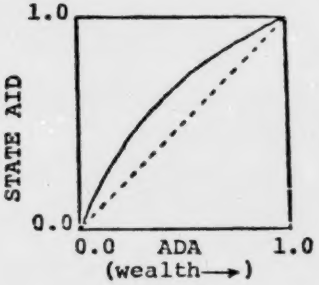
$$= \sum_{n=2}^{n} (x_i y_{i-1} - x_{i-1} y_i) + 1 \qquad (2)$$

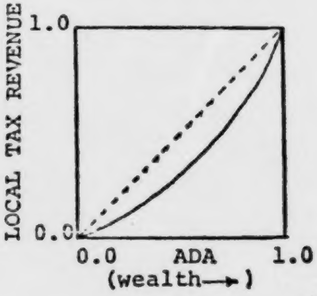
$$= 1 - \sum_{n=2}^{n} (x_{i-1} y_i - x_i y_{i-1})$$

substituting the value of area B in eq 1

$$G = \sum_{n=2}^{n} (x_{i-1} y_i - x_i y_{i-1}) \qquad (3)$$

Gini Coefficient for State Aid:





Since poor districts get more state aid than wealthy districts, the curve in this case will be above the diagonal and formula 3 would result in a negative value of G. To avoid confusion we reverse the sign of G to make it positive. However, Gini coefficient as applied to state aid must be interpreted differently. The higher the value of G in this case, the better it is for poor districts and the higher is the equalization. On the other hand higher values of Gini coefficients for total expenditure and local revenue indicate lesser equalization.

School Finance Research Studies

As a part of the program of the National School Finance Conference nominations are solicited for outstanding research conducted by doctoral students in the area of school finance. During the 1973 conference the following dissertations were recognized as having made a contribution to the field of research in school finance.

A STUDY TO IDENTIFY VARIABLES WHICH PREDICT ELEMENTARY SCHOOL PRODUCTIVITY

BY CARL J. DAEUFER
AUGUST, 1972

CHAIRMAN: DR. KERN ALEXANDER, JR.
MAJOR DEPARTMENT: EDUCATIONAL ADMINISTRATION
INSTITUTION: UNIVERSITY OF FLORIDA

The primary problem of this study was to identify school and nonschool variables which would differentiate high and low productivity in urban elementary school centers. The problem was investigated in two phases. Phase one used simple regression analysis to identify a dichotomous criterion of elementary school productivity through the measured relationship of pupil achievement and per pupil expenditures. Sixty-eight elementary school centers which served grades one through six and administered the 1969-1970 district-wide fourth grade achievement tests constituted the sample in phase one. Phase two employed stepwise discriminant analysis to find a discriminating function for each of several combinations of input variables that would predict high or low productivity. The criterion variable was the identified 30 high and low productive elementary school centers, and the independent predictor variables used in phase two represented a composite of

25 school and nonschool input measures and five combinations organized into problem sets for analysis. These included (1) one problem set which used student related variables, (2) two problem sets, one which focused on school while the other on all nonschool related variables; and (3) two problem sets categorized into administrative decision making and nondecision making related variables.

Independent variable data were obtained from urban district records for school year 1968-1969, and income data were obtained from a merger of 1968-1969 U.S. Office of Education records and the Internal Revenue records of 1966.

In predicting high or low productivity, the discriminant analyses produced discriminating equations which classified the identified elementary school centers into one of the two productivity groups. Within each set of equations a maximal mix of predictor variables was observed. The efficacy of these prediction equations was tested by calculating both the percent of accurately classified elementary school centers and the efficiency of discrimination, or amount of variance explained by the variables included in the discriminant function of each problem set.

The major findings and conclusions were:

1. High and low productive elementary school centers are ascertainable when using simple regression analysis to measure the relationship of achievement to expenditure.

2. In the composite and administrative decision making problem sets, student socioeconomic and teacher preparation predictors tended to be the maximal discriminating variables of productivity. The findings suggest that varying percentages of pupils from low income families and certificated staff without a degree may explain most of the variance between elementary school center productivity groups.

3. In the school related problem set staff sociocultural characteristics and teacher preparation and experience tended to be the maximal discriminating variables of school productivity. The results suggest that varying percentages of nonwhite professional staff, certificated staff without a degree and differences in years of teaching experience may account for most of the variance in school productivity.

4. In the administrative nondecision making problem set predictors relating to pupil attendance and the income level of residents of a geographical area served by a school center tended to be the maximal discriminating variables. The findings suggest that different levels of average daily attendance by students and varying percentages of income above $10,000 may explain most of the variance in elementary school center productivity.

5. The input-output analytical procedures employed in this study were generally definitive in identifying input variables predictive of high and low productivity. The findings suggest that the discriminant functions derived in these six problem sets accurately predicted high or low productivity 90 to 100 percent of the time and accounted for 86 to 100 percent of the variance between the productivity groups.

THE RELATIONSHIP BETWEEN SELECTED FISCAL AND ECONOMIC FACTORS AND VOTING BEHAVIOR IN SCHOOL BUDGET ELECTIONS

By Robert J. Goettel, 1970

Chairman: Dr. James A. Kelly
Major Department: Educational Administration
Institution: Columbia University

The purpose of this study was to apply empirical tests to commonly held notions of the factors which influence voting behavior in school budget elections. It has been suggested that when large numbers of voters go to the polls at school budget elections, they go to express their frustrations about steadily mounting taxes at the local, state and national levels, as well as to protest increases in educational costs. This study tests these assumptions by measuring the extent to which (1) fiscal decisions made by boards of education, (2) fiscal commitments not currently controllable by boards of education, and (3) expenditures and tax rates for non-school governmental units influence voting behavior in school budget elections.

Data on increases in school budgets, teacher salaries, school property tax rates, debt service payments, the influence of the state aid formula, county and town budgets and the county-town property tax rate were collected from 126 school districts in New York State in which the first budget submitted to the electorate for approval in 1969 was defeated, and from 135 randomly selected districts in which the budget passed. Background data on pupil enrollment, community growth, and wealth in terms of real property valuation and median family income as well as the number of voters in the election and the number who cast negative votes were also collected.

The literature on voting behavior in partisan and school financial elections suggests that voter affiliation and participation fit stable patterns over time. Changes in stable patterns can occur when latent opinions are activated by certain stimuli. If these newly activated opinions reach sufficient intensity, they can result in changed behavior, particularly a decision to participate in the election, provided the individual experiences a sense of efficacy, a belief that his vote will count. This study sought to determine, then, which fiscal and economic factors do indeed function as the stimuli which activate and change voter behavior in school budget elections and what is the extent of their contribution.

To answer that question, data for the state as a whole were analyzed in four categories (passing-participation, passing-dissent, failing-participation and failing-dissent) using a multiple regression technique designed to indicate the extent to which each predictor variable uniquely contributes to variations in voter participation and dissent. The results of this analysis were surprising. Only one fiscal factor—the percentage of the budget raised locally—had an important effect on the criterion variables explaining 5 to 19 percent of the variance depending upon the category. Moreover, once the background factors were excluded, the fiscal and economic factors together accounted for only 18 to 29 percent. More surprising is the almost total lack of importance of the two categories of variables expected to be strong predictors consistent with the common notion about causes of voter behavior: budget decisions controlled by a board of education and non-school (municipal) fiscal factors.

These results plus the higher wealth of defeating districts suggest the influence of the regional context of fiscal behavior on electoral behavior. Therefore, the 261 districts were grouped by metropolitan New York City SMSA, upstate SMSA and non-SMSA and analysis performed for each group independently. Changes from the original analysis were notable. All variables now explain 23 to 53 percent of the variation in electoral behavior. But the more striking result is the differences among regional groups. In rural districts (non-SMSA) the fiscal and economic factors explain approximately one-fifth of the variance in dissent, upstate of SMSA 53 percent and metropolitan New York 47 percent. The influence of decisions controllable by a board of education becomes more important. The six conclusions of this study are:

1. Approximately one-half of the variance in voter participation and dissent is not explained by the factors used in the study.
2. The most consistent stimuli of participation and dissent are not controllable by boards of education in the year in which the election occurs.
3. Teacher salary increases have no effect on participation and dissent.
4. Non-school fiscal and economic factors are not important predictors of electoral behavior in school budget elections.
5. The influence of fiscal and economic factors on electoral behavior differs according to the geographical area in New York State in which the school district is located.
6. Participation and dissent in school budget elections are highly related.

The increase in school property tax rates and tax levies as a proportion of the total budget over a period of several years were suggested as additional fiscal factors with potential explanatory power.

The findings of this study suggest that the act of voting in a school financial election is often conceptualized in much too narrow terms. It is seen only as support of or failure to support a particular spending plan. While in effect support of the board of education on a financial issue is the immediate question at hand, voters are motivated to participate and cast "yes" or "no" ballots as a result of a configuration of stimuli. School budget elections are not just an opportunity for voters to express their concerns about spending for schools or even poor economic conditions in general. They are all too often the only opportunity available to most electorates to play a direct role that can have immediate impact in affecting board of education policy decisions. The school budget election becomes for at least some voters, then, a referendum on the effectiveness of the schools in general rather than simply a judgment about the wisdom of a particular spending plan.

The specific relationship between non-fiscal stimulus factors and voting behavior involves the notion of *latent negativism:* negative attitudes toward the school district are activated at occasional school budget elections when there are stimuli present sufficiently strong to motivate the citizen to vote. Three non-fiscal factors were suggested that could activate the latent negativism with the result that voters withdraw their support from the school district by casting negative ballots in the school budget election. They are:

1. Community conflict over a non-fiscal educational issue:
2. Organized opposition to the board of education:
3. Contests for seats on the board of education.

INPUT-OUTPUT ANALYSIS OF SECONDARY SCHOOLS IN PENNSYLVANIA

By Rodney J. Kuhns, 1972

Chairman: Dr. Walter J. DeLacy
Major Department: Educational Administration
Institution: Pennsylvania State University

In this investigation theoretical input-output models of Pennsylvania secondary schools were examined. The purposes of the study were 1) to explore the predictive relationships among certain specified manipulative inputs and selected outputs as measured by the Pennsylvania Department of Education's Bureau of Educational Quality Assessment, and 2) to construct and validate a better empirical predictive model. This model should enable managers to discern the impact of various mixes of manipulative inputs on educational outputs. Manipulative inputs referred to those resources that can be controlled or changed over a short-run planning horizon by educational decision makers.

If schools are to allocate resources more efficiently, then educational managers obviously must be provided with more relevant information concerning the effect of inputs on outputs. The Pennsylvania Plan for statewide assessment was created by legislative mandate to determine the adequacy and efficiency of public schools in the Commonwealth. To accomplish this task an educational input-output model was designed to measure the impact of three broad categories of educational inputs. They were: 1) school and community; 2) instructional staff; and 3) student characteristics. Output was measured by a battery of instruments that include both cognitive and affective types of learning.

After reviewing the Pennsylvania Plan's findings, a major limitation of the current Pennsylvania input-output model was observed. Insufficient consideration was given to dynamic organizational variables—that is, inputs that could be manipulated from year to year by administrators to observe the impact on output. Most of the variation in school outputs was accounted for by inputs that would be difficult to change or alter in a short-run planning horizon. For example, teacher characteristics like sex, age, background, education, experience, and parental occupational level, are near immutables over a short time period. Therefore, educational decision makers wishing to employ these findings to effect rational change or to alter resource allocation were seriously impaired due to the selection of inputs utilized in the model.

There were two primary sources used for data collection. The Pennsylvania Department of Education, Bureau of Educational Quality Assessment, generously provided the entire set of 1971 inputs and outputs. The data used to construct the manipulative inputs were collected by questionnaires sent to the participating secondary schools. There were fifty-three schools in the sample with 100 percent response realized.

Multiple linear regression was the analytical model chosen to validate the input-output models. An important result of multiple linear regression analysis is the capacity to assess the efficacy of each input variable in the presence of other inputs in predicting or explaining school outputs. However, a basic problem is to choose a predictor set from the available predictors (inputs).

There are a number of methods for selecting a set of "p" predictors from a larger set of "P" predictors. The analytical procedure utilized in this study was the true step-up regression procedure. In the absence of a learning theory which specified *a priori* the order of input entrance to the model, this step-up regression procedure was deemed preferable.

Three different input-output models were analyzed and compared to accomplish the stated goals of this research; the proposed model using mainly manipulative inputs, the current Pennsylvania Plan's model, and the amalgamated model—a merger of the other two. The criterion for input selection to the predictor set was at least a one percent contribution to R^2.

The major findings were:

1) The amalgamated model, a merger of both sets of inputs to predict the same outputs, performed substantially better in terms of its predictive potential (R^2) than either of the other two models.

2) The proposed model, containing mainly manipulative inputs, exceeded or equalled the predictive power of the current BEQA model on six of twelve regressions.

3) A major determinant of student performance, on school output measures, was nonschool inputs such as family socioeconomic status.

4) Manipulative input performance can be summarized as follows:

a) Teacher salaries had a positive association with outputs;
b) Preparation coefficient (teacher specialization) was positively related with a few outputs;
c) Teacher load had a consistently negative association with outputs;
d) Class size, a new index, had mixed predictive effects on outputs;
e) Administrative man-hours and outputs were positively associated;
f) Auxiliary man-hours and outputs were weakly and negatively related;
g) Paraprofessionals related negatively to output;
h) Curriculum units per grade performed perversely by its negative association with outputs;
i) Students/academic faculty had mixed predictive effects with strength demonstrated in both directions;
j) Average extracurricular expenditure was only nominally related to output;
k) The facilities components, as measured by (1) the building ratio (crowding) and (2) school size, were relatively weak predictors of learning outcomes.

5) The predictive strength of manipulative inputs was clearly seen in the amalgamated model where numerous nonmanipulative type inputs were displaced or selectively excluded from entering the model.

A basic concern of school finance is the allocation of scarce resources to various competitive educational programs. The general proposition underlying the development and analysis of the various input-output models in this study was that specified manageable school inputs would have a measurable impact upon the prediction of learning outcomes production. With the identification of those controllable factors of production that might contribute to improving educational productivity, the possibility for increasing rationality regarding resource allocation is enhanced.

Some of the conclusions that can be derived from this study are presented below:

1) The amalgamated model, a merger of selected Pennsylvania Plan inputs and manipulative inputs made a substantially better prediction of learning outcomes production than the other two models by themselves. Therefore, it is clear that what educators do with certain resources does make a difference in learning outcomes. If agreement could be reached on selection of a single output from the multiplicity of educational goals and input costs identified, then various alternative combinations of inputs could be examined in relation to the costs and the predicted effects.

2) Schools paying higher teacher salaries tended to have higher student performance on school output measures. This probably reflected the schools' ability to attract better qualified teachers or older, more experienced and more educated teachers.

3) Teacher specialization tended to decrease school outputs. In

most economic organizations, increased specialization is normally associated with increased productivity. The relevance of this assumption in education is questioned by the results of this study.

4) Teacher effectiveness in producing learning was related to lower teaching loads in classroom work. Schools where teachers taught more hours per week tended to have a negative effect upon school outputs, other things equal.

5) The school facilities component as measured by the building ratio (crowding) and enrollment (size) were more related to affective outputs than cognitive. Crowded schools tended to reduce their effectiveness in developing better student attitudes of understanding differing others, interest in school, and citizenship. Large schools tended to contribute to lower student self-images but improved their attitudes toward others different from themselves. These conclusions seem reasonable in that the acquisition of impersonal and more bureaucratic characteristics, an unfortunate dysfunctional consequence of school size, probably interferes with the delicate development of sound student self concepts. However, the exposure to larger numbers of students of different races, religions and subcultures seems to be functional in making students more tolerant of differing others.

6) Curriculum growth and expansion may be dysfunctional. Perhaps by increasing course selection there has been an inadvertant increase in student confusion in how best to achieve their individually prescribed goals. Or, increases in course offerings may be creating competitive courses that divert the student's attention away from the acquisition of basic skills and the development of acceptable attitudes. Obviously, there is more to the production of learning outcomes in schools than mere increases in curriculum breadth or depth.

7) Utilization of management science models in education—e.g., the constrained input-output model—is in its embryonic stage. Although the research findings only provide *at best* nominal evidence for moving toward decision models concerning resource allocations, it does provide revealing insights into the complexities of school systems.

EFFECT OF HIGH SCHOOL SIZE ON COST AND INSTRUCTIONAL PROGRAM

By Jack Irvin Marcussen, 1972

Chairman: Dr. William P. McLure
Major Department: Educational Administration
Institution: University of Illinois

There are many facets to the question of school size which school boards and superintendents must consider as they attempt to more efficiently meet the academic, career and social needs of their students.

The question of program effectiveness and cost, in relation to school size, has been a continuing concern of those who have recognized the need for consolidation of small schools and school systems into larger educational units.

Since these early efforts toward rural school consolidation, new social and economic issues have given impetus to the study of school organization, size, student population, program, and economic support. The financial problem is one that plagues almost every school system in the nation. The situation grows more critical each year when school districts must again budget limited resources in an attempt to provide needed services in a constantly expanding economy.

The major purpose of this study is to identify the critical size school, defined by the author as that (enrollment) size at which the cost of the program for a school of any smaller size is too prohibitive to support an acceptable level of educational opportunity.

The study also seeks to answer several other questions concerning school size, cost and the instructional program: (1) What percent of the per-pupil unit cost of the entire instructional program is devoted to required components of the program? (2) At what point in school size do costs of operating the total instructional program tend to level off? (3) To what extent do differential costs of certain subject matter areas inhibit their inclusion in the instructional program? (4) To what extent do academic and vocational schools meet the needs of their respective populations?

A "Program Analysis and Planning Approach" is applied to two existing schools which serve as the "criterion" schools. The technique involves four steps: (1) statement of assumptions, (2) cost analysis of criterion school programs, (3) cost-utility analysis of programs, and (4) identification of the critical size school.

Three criteria were considered in the selection of the schools used in this study: (1) program emphasis, (2) socio-economic characteristics of the student population, and (3) location.

The cost analysis is applied to the criterion schools in order to identify current costs of each course in the program on a per pupil basis. Current costs include direct instructional costs and indirect current costs.

The cost-utility analysis provides for the projection of alternative school sizes and programs, based on the cost analysis of the criterion schools. This is accomplished by selecting courses on a priority basis, required courses first, and pricing out their costs on a fixed budget basis for each smaller size (simulated) school. The programs of the simulated schools are then measured against a set of criteria which establish minimum standards for an acceptable program. The smallest size (simulated) school meeting those standards is identified as the critical size school.

It was found that the percent of the total budget allocated to the required program increases as school size decreases. Likewise, the percent of the total program devoted to required courses increases as school size decreases. There appears to be some evidence of a breaking point in school size where the required program tends to dominate the curriculum. While small schools attempt to offer adequate programs, it can be seen that required courses seriously impede their efforts both in a cost sense and consequently, in the number and variety of curricular choices available to students.

Costs for both the vocational schools and the academic schools tend to level off considerably when enrollment size reaches 1,500 students, with an almost total "leveling off" in schools of 2,000 or over. A breaking point at which costs cease to spiral upward and tend to level off seems to occur at approximately 750 enrollment size.

Differential costs of subject matter areas are generally the same for the academic and vocational schools. High cost subjects include music, business education and industrial arts. As might be expected, vocational education is the most expensive program offering in the vocational school.

An analysis of the extent to which the criterion schools serve the needs of their particular student populations indicates that neither school effectively meets the needs of students who require remedial courses. Generally, the vocational school appears to better serve its student population.

On the basis of the data presented, the critical size school for an academically oriented school appears to be approximately 750 student enrollmment. While the vocational and academic criterion schools used in this study are not similar in size, extrapolation of the data establishes that a vocational school of approximately 800 to 850 enrollment size could meet the criteria necessary to be identified as a critical size school. Thus it would appear, from an analysis of the data presented in this study, that the critical size school would fall within the size range of 750 to 850 student enrollment.

The increasing demands for educational services and the associated rising costs of education are well known. As the sources of financial support reach a point of depletion, educational leaders must search for avenues of economy.

The analytic technique applied in this study can hopefully serve as one administrative procedure for analyzing costs and projecting viable alternatives to meet increasing educational needs in a time of economic crisis. The Program Analysis and Planning Approach can serve as an evaluation procedure which permits decision makers to take an in-depth look at their school programs.

This study measured utility objectives in terms of a program prescription that was considered adequate by the writer. It did not touch upon actual pupil benefit objectives which involves the measurement of behavioral changes that are expected to take place in students as a result of the various course offerings in an instructional program. This is a much more complicated evaluation of program, size and cost relationships, which needs to be researched when appropriate measurement procedures are developed.

A STUDY TO IDENTIFY VARIABLES TO PREDICT LOCAL SCHOOL DISTRICT PRODUCTIVITY IN TWO STATES

By Scott N. Rose, June, 1972

Chairman: Kern Alexander
Major Department: Educational Administration
Institution: University of Florida

This study was one of two studies sponsored by the National Educational Finance Project to identify variables associated with school district productivity.

The problem of the study was to find a function of several measurements of socioeconomic, community, and in-school variables which predicted high and low productivity in two states.

To identify high and low productive districts, pupil reading achievement was related to per pupil expenditure, deriving a regression line which predicted the amount of reading achievement expected for a given level of expenditure. The residual value, difference between actual achievement and predicted achievement, was used to measure school district deviation from the expected level of productivity. Districts that deviated beyond an established minimum were identified as belonging to either a high productive group or a low productive group.

A list of variables postulated as having an association with productivity was developed through a review of the literature. Variables were descriptive of student socioeconomic background, community and in-school inputs into the educational process. Data for the variables were gathered from the two state departments of education and from the National Educational Finance Project.

Stepwise discriminant analysis was used to identify the variables associated with productivity. The statistical technique developed a set of predictor equations. This predictor function was the best combination of weighted variables to differentiate between the two productivity groups. A separate function was developed for each of the socioeconomic, community and in-school groups of variables. In addition, a composite function including variables from all three categories was derived.

The best combination of variables in both states was the composite function. The accuracy of classification was 81 per cent in State A and 90 per cent in State B. Seventy-two per cent of the variation between productivity groups was accounted for by the composite function in State A and 90 per cent in State B.

The two states were different in size, population characteristics, economy and geography. Similarly, the predictor functions were different. Only the variable, percentage of attendance, was common to both states. Predictor variables of the composite function in State A were median education level of the adult population, percentage of pupils eligible for ESEA Title I programs, and percentage of school attendance. Predictor variables of the composite function in State B were percentage of personal incomes over $10,000, percentage of school attendance, percentage of graduates entering post secondary school education, percentage of teachers with less than 4 years of professional preparation, percentage of enrollment from a minority ethnic or racial group, average class size, percentage of teachers with 30 hours of training beyond the bachelor's degree or with an advanced degree, and the number of children per nonteaching certified personnel.

Socioeconomic and community variables accounted for more variation than did in-school variables. However, in State B, the in-school function was able to classify accurately 75 per cent of the districts and accounted for 49 per cent of the variation between productivity groups.

Major conclusions of the study were:

(1) The procedure used to study productivity was successful in that high and low productive districts and the variables that discriminated between them were identified.

(2) More of the variation between productivity groups was accounted for by socioeconomic and community variables than in-school variables.

(3) In-school variables acted in combination with socioeconomic and community variables in predicting productivity.

(4) The different functions derived suggest that there may be a unique combination of variables in each state to predict productivity. Each state should be studied independently to consider the state's unique circumstances.